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VOL. XV. NO. 3.

FEB. 1, 1887.

C. R. Decker

PEACE ON EARTH & GOOD WILL TOWARDS MEN

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U. S. DEPARTMENT OF AGRICULTURE

CLEANING IN BEE CULTURE

DEVOTED
TO
THE
BEEKEEPER

& HOME INTERESTS.

MANAGED
BY
A. ROOT

TERMS, ONE DOLLAR PER YEAR.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

GLEANINGS IN BEE CULTURE.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

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An additional discount of 10 per cent, where *electro-types* are furnished. A. I. Root.

CLUBBING LIST.

We will send GLEANINGS—
With the American Bee-Journal, W'y (\$1.00) \$1.75
With the Bee-keepers' Magazine, (25) 1.25
With the Canadian Bee Journal, W'y (1.00) 1.80
With all of the above journals, 3.00

With American Agriculturist,	(\$1.50)	2.25
With American Apiculturist,	(\$1.00)	1.75
With American Garden,	(\$2.00)	2.50
With the British Bee-Journal,	(2.00)	2.90
The Bee Hive,	(30)	1.20
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Scientific American,	(3.20)	3.50
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.75
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(2.00)	2.25

[Above Rates include all Postage in U. S. and Canada.]

ON 30 DAYS' TRIAL.



THIS NEW ELASTIC TRUSS

Has a Pad different from all others, is cup shape, with Self-adjusting Ball in center, adapts itself to all positions of the body while the ball in the cup presses back the intestines just as a person

does with the finger. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free. EGGLESTON TRUSS CO., Chicago, Ill.

1-12db

Untested Queens Ready to Mail ALL WINTER LONG.

I have now on hand untested queens ready to send out by first mail. In regard to my responsibility, I would refer you to A. I. Root, with whom I received instruction in bee culture. The friends who order these queens during the winter time are expected to have sufficient experience to take care of them when they are received at the postoffice. In the Southern States, where the winters are so mild the bees can fly almost all winter long, of course there will be little more difficulty in receiving them in the winter months than at any other time.

N. ADAMS, Sorrento, Orange Co., Fla.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfdd

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

\$1.00 Queens.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Columbia Co., Pa.	1tf
*Paul L. Viallon, Bayou Goula, La.	19tf
*S. F. Newman, Norwalk, Huron Co., O.	19tf
*D. G. Edmiston, Adrian, Len. Co., Mich.	19tf
*S. G. Wood, Birmingham, Jeff. Co., Ala.	19tf
*E. Kretschmer, Coburg, Mont. Co., Iowa.	19tf
*Jos. Byrne, Ward's Creek, East Baton Rouge	
	19tf Par., La.
*E. Burke, Vincennes, Knox Co., Ind.	3-1
C. C. Vaughn, Columbia, Tenn.	15tf
	Bloomington, Ill. 15tf
J. B. Hains, Bedford, Cuyahoga Co., O.	15tf
J. M. Jenkins, Wetumpka, Ala.	

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La.	15tf
C. W. Costellow, Waterboro, York Co., Me.	1-23
R. B. Leahy, Higginsville, Laf. Co., Mo.	15tf
E. Kretschmer, Coburg, Montgomery Co., Ia.	15tf
C. P. Bish, St. Joe Station, Butler Co., Pa.	1tf
J. M. Jenkins, Wetumpka, Ala.	3-23d

WRITE TO JOHN CALLAM & CO.,
LUMBER DEALERS, KENTON, OHIO,
— FOR PRICES ON —

BEE-HIVES, SECTIONS,
And General Supplies for Bee-keepers

New Factory. Low Prices. Good Work.
24-11db

MUTH'S
HONEY-EXTRACTOR,
SQUARE GLASS HONEY-JARS,
TIN BUCKETS, BEE-HIVES,
HONEY-SECTIONS, &c., &c.
PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,
CINCINNATI, O.
P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." 1tfdd

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A*WHITE*GRAPEVINE*FREE*TO*ALL.

For this month only. Send 10c. to pay postage.
Catalogue free. L. L. ESENHOWER & CO.,
3-4d. Reading, Pa.

COMB FOUNDATION.

Dunham Brood Fdn., 40c. per lb.; extra thin Vandervort Fdn., 45c. per lb. Wax made into fdn. for 10 and 20c. per lb. 10% discount on all orders received before the 15th of April.

SAMPLES FREE.

3-7fdb. F. W. HOLMES, Coopersville, Mich.

Send for my new and enlarged Price List for 1887, now ready, of

APIARIAN SUPPLIES, ITALIAN BEES AND QUEENS.

All untested queens warranted purely mated. Also three varieties of

HIGH-CLASS POULTRY.

3d. C. M. DIXON, Parrish, Ill.

I am now ready to take orders for

Basswood and Hard-Maple Trees AND RASPBERRY-PLANTS.

Please write for prices. Address H. WIRTH,
3-5d. Borodino, Onon. Co., N. Y.

FOR SALE.—A complete apiary of 140 colonies of fine premium bees in a never-failing locality. A bargain, if called for soon. My bees and queens were awarded first premium at the late St. Louis Fair, St. Louis, Mo. Address at once,
L. WERNER, Edwardsville, Ill. 3d

BEE KEEPERS' GUIDE, Memoranda, and Illustrated catalogue, for 1887, FREE. Reduced prices. Address JOS. NYSEWANDER, Des Moines, Iowa.
3tfdb

For Sale, or exchange for Western land, 90 acres, sufficient to increase colonies to 100 double hives—Simplicity hives. An excellent opportunity for a live apiarian. Plenty of white clover and basswood, besides abundance of fruit-bloom. Inventory sent on application. Must be sold soon.
3d Address S. W. LAKIN, Eureka, Ill.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL.
See advertisement in another column. 3tfdb

200 COLONIES OF

Choice Italian & Albino Bees

FOR SALE AT GREATLY REDUCED PRICES.

Also a full line of Bee-keepers' Supplies. **COMB FOUNDATION** from choice select yellow beeswax a specialty, at very low rates, both wholesale and retail.

Do not fail to send for my 27th Annual Catalogue before purchasing.

Address **WM. W. CARY,**
3tfdb COLERAINE, MASS.

Mention this paper when writing.

MAKE YOUR PRICE LIST STICK.

Common circulars are often thrown away with only a passing thought, and soon forgotten. But our beautiful, instructive, amusing

CHROMO CARD

Will stick. When the articles upon it are explained, the story will be repeated many times. Bees, flowers, children, implements, brilliantly

PRINTED IN EIGHT COLORS.

Give it to a customer for honey or supplies, and you will not be forgotten.

Sample package, 10 cts. One sample and price list of cards, queens, foundation, and other things useful, sent free. Address **J. H. MARTIN,**
3-8db. HARTFORD, Wash Co., N. Y.

FOUR-PIECE ONE-POUND DOVETAILED SECTIONS,

Smoothed on one side, made of white basswood, \$2.25 per 1000. Sample free. M. A. LOHR,
3d. Vermontville, Eaton Co., Mich.

SAMPLES FREE.

OF MY ONE-PIECE

V-Groove Basswood Section.

They are splendid, and I sell them for from \$2.50 to \$3.75 per 1000. I keep a full line of supplies, which I sell at bottom prices. Address **EZRA BAER,**
3tfdb Dixon, Lee Co., Ill.

In this Glorious Eve of the 19th Century, the watchword is

“EVER-ONWARD.”

I BELIEVE

NO BEE-HIVE

Now before the public contains as many practical points for the profitable production of honey as

Shirley's Contractible Hive.

It admits of the use of from 1 to 10 frames, without extra fixtures. The most complete reversible frames, etc. Price \$2.00. Satisfaction guaranteed, or money refunded. For further information, address
W. H. SHIRLEY,
3-4-5-6-7-8d. MILL GROVE, Allegan Co., Mich.

HONEY COLUMN.

CITY MARKETS.

NEW YORK.—*Honey.*—Since Christmas the comb-honey market has been very inactive, and sales slow; but it has shown more life the past week. Stock of comb on this market is large, and prices rule accordingly. We quote as follows:

White, 1-lb. sections, 10@12; white, 2-lb. sections, 9@10; off grades 1@2c per lb. less. Buckwheat, 1-lb. sections, 8@8½; same in 2-lb. sections, 7@7½; California extracted, 5@5½. Buckwheat, extracted, 4@4½.

MCCAUL & HILDRETH BROS.,
Jan. 21. 34 Hudson St., Cor. Duane St., New York.

PHILADELPHIA.—*Honey.*—Dull and neglected. Fancy white clover, in glass sections, 12c; same, fair to good, 1-lb. and 2-lb., fair to fancy, 10@11. Buckwheat, 8@10 as to quality, etc.

Beeswax.—Good demand, and firm. White choice, 27@28; yellow choice, 23@24; yellow dark, 20@22.

PANCOAST & GRIFFITHS,
Jan. 22, 1887. 242 South Front St., Philadelphia, Pa.

CINCINNATI.—*Honey.*—There is no change worthy of note since our last. Demand is slow for comb honey and extracted honey in square glass jars, since Christmas; but our sales to manufacturers are very satisfactory for the last two weeks. We quote choice comb honey, 12@15c in a jobbing way. Occasional concessions have to be made, however, to effect sales. Extracted honey, 4@7 on arrival, according to quality.

Beeswax is in good jobbing demand, and brings 20@22c for good to choice on arrival.

CHAS. F. MUTH & SON,
Jan. 22, 1887. Cincinnati, Ohio.

CHICAGO.—*Honey.*—Honey sells slowly in a single-case way from the commission merchants' hands. Choice to fancy white, one-pound sections 12@13c. Good in one-pound sections 10@11c.

Dark in - - - - - 7@8c
Extracted, white clover, - - - - - 6c
" dark, - - - - - 4@5c

Beeswax, 23@25. R. A. BURNETT,
Jan. 22, 1887. 161 So Water St., Chicago, Ill.

DETROIT.—*Honey.*—The supply of comb honey still continues large, with no change in prices since last quotations. Considerable old honey will be carried over until another season. *Beeswax*, firm at 23c.

M. H. HUNT,
Jan. 22, 1887. Bell Branch, Mich.

ST. LOUIS.—*Honey.*—There has been no improvement in the honey market since our last report. Choice white-clover honey in 1-lb. sections, 12@13. Good fair stock, 10@11. Extracted, tin cans, 5@6c; bbls., 4@4½. California comb in sections, 10@11. White sage, extracted, 4½@5½. In cans and bbls., 4@4½c.

Beeswax.—In good demand; as it runs, 21@22c. Selected yellow, 24@25. W. B. WESTCOTT & CO.,
Jan. 22, 1887. 108 and 110 Market St.

MILWAUKEE.—*Honey.*—Honey is in good supply, and the demand is not very active. I think that lower values will necessarily be accepted, to sell. Present quotations are, for white 1-lb. sections, 12@12½; white 2-lb. sections, 11@12. Dark not wanted. Extracted, white, in bbls. and kegs, 6@6½; extracted, white, in small packages, 7@8; dark in barrels and kegs, 5@5½. *Beeswax.*—25c.

A. V. BISHOP,
Jan. 19, 1887. 142 W. Water Street.

NEW YORK.—*Honey.*—There seems to be a slight improvement in our honey market, and we notice a better demand for the past two weeks. The finer grades of white comb honey are getting scarce, yet we have a large stock of the lower grades of white and buckwheat on hand, and in jobbing lots we are obliged to shade prices in order to make sales. California extracted is in good demand at 5@5½c.

Beeswax.—Light receipts and limited demand 21@23, according to quality.

THURBER, WHYLAND & CO.,
Jan. 22, 1887. Reade and Hudson Sts., New York.

BOSTON.—*Honey.*—Honey is selling a little slow, and no change in price. BLAKE & RIPLEY,
Jan. 21, 1887. 57 Chatham St., Boston, Mass.

CLEVELAND.—*Honey.*—There is no material change in the market. Sales are very slow, demand light, but prices unchanged. Best white 1-lb. sell at 13; dark 1-lb., 10. Best white, 2-lbs., 11@12. Extracted is dull at 6c. *Beeswax*, 25c. A. C. KENDEL,
Jan. 21, 1887. 115 Ontario St., Cleveland, O.

KANSAS CITY.—*Honey.*—The demand is light, and stocks of all grades are large.

1-lb. white clover, - - - - - 12
1-lb. dark - - - - - 8@10
2-lb. white clover, - - - - - 10@11
2-lb. dark, - - - - - 7@9

Extracted, white clover, 6; dark, 4@5; white sage, 5@5½; amber, 4½@5. *Beeswax*, 20@23.

CLEMONS, CLOON & CO.,
Jan. 22, 1887. Cor. Fourth and Walnut Sts., Kansas City, Mo.

FOR SALE.—2000 lbs. best clover honey in Root's "raised-cover pails." One set, 30½ lbs., \$2.50; 1 set, 122 lbs., \$9.25. Boxed, they ship same as bbls.

OLIVER FOSTER, Mt. Vernon, Iowa.

FOR SALE.—1 bbl. of 550 lbs. net, and 5 kegs of 115 lbs. net each, all of which is No. 1 white-clover honey, well ripened. Will take 6½c per lb. for bbl. and 7c for kegs. Sample sent for 2-cent stamp.

R. J. BARBER, 818 E. Washington St.,
Bloomington, Ill.

FOR SALE.—I have 10 bbls. of choice clover honey on hand yet; will take 6c at depot here.

H. W. FUNK, Box 1156, Bloomington, Ill.

FOR SALE.—150 lbs. of goldenrod honey at 13c per lb., and the purchaser to pay Root's price for cases. I will deliver it on board cars at Grand Junction, Mich.

C. H. MARTIN, Lee, Allegan Co., Mich.

FOR SALE.—Eight 48-lb. crates of white-clover comb honey, in 1-lb. sections. Crates and all delivered at depot for an even \$5.00 apiece.

G. S. FOX, Mitchellville, Polk Co., Iowa.

FOR SALE.—2500 lbs. of buckwheat honey, for 5½c per lb. It is in ½ bbls.

J. H. MARTIN,

Hartford, N. Y.

FOR SALE.—Three new oaken eight-iron-hooped barrels of white-clover honey, at 7½c per lb., delivered on board of cars here. Weight of each, 590 lbs. Gross weight of barrel, 60 lbs. Net, about 530 lbs. Honey is solid candied, and very fine and white.

A. L. KLAR, Pana, Christian Co., Ill.

CHEAP ENOUGH!

JUST THINK OF IT!

A Complete 2-Story Langstroth Hive in the Flat, for 80 cts.

We have a large stock of the above that has sold heretofore for \$1.25 per hive. In order to reduce the stock we will sell them for 80 cts. per hive. They take the L. frame, 9½×17½, and are made of No. 1 pine. Write for delivered prices.

Remember, we are offering great inducements to dealers and large consumers on our one-piece sections. Price list of supplies free.

SMITH & SMITH,

KENTON, OHIO.

STANLEY'S AUTOMATIC HONEY-EXTRACTOR.

The only self-reversing honey-extractor known.

The Automatic took all of the honors, and had a lively sale, at Albany, during the convention just held. Send in your orders early, before the rush of spring trade. Send for new circular and list of testimonials from those who have used the machine.

Address at once.

C. W. STANLEY,
Wyoming, N. Y.

3td



Vol. XV.

FEB. 1, 1887.

No. 3.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries not of the U. P. U., 42 cts. per year extra.

DR. MILLER'S "T" SUPER, AND ITS USE.

DISCUSSED BY TWO OF OUR LARGE HONEY-PRODUCERS.

MR. EDITOR:—I inclose herewith a letter from one of the veterans, M. M. Baldrige. I think so interesting a letter should be given to the fraternity at large, and for their benefit I will also append my reply.

C. C. MILLER.

FRIEND MILLER:—The "spirit" moves me to write you a few lines about your "Year Among the Bees." I have read the book through recently, and some parts of it two or more times. Many things you say interest me exceedingly; and let me say here, but not by way of flattery, that you have written a very good work on bees. I have also read with especial interest what you say about the **T** super. I have made them since 1883, but not exactly as described by you. I use no iron pieces nor loose **T** rims. I simply saw through each side-piece 3 times, and then insert the wide edge of the tins, and drive two $\frac{3}{8}$ wire nails through both sides of each end. This holds the tins in place at all times. But you have the upright edge of tins only $\frac{1}{2}$ inch deep, and find $\frac{3}{8}$ too deep, as it holds the separator too high. I have not used the super enough to know how that is; but others tell me that the separator needs to be only $2\frac{1}{4}$ inches wide, when of tin, for the $4\frac{1}{4}$ -inch section; that is, a sheet of tin, 14 by 20, will make 5 separators, quite wide enough for the pound section; therefore for the nailed section I get the tins out 1 inch wide, and have the upright part $\frac{3}{4}$ inch high, as the top and bottom pieces of the section are $\frac{1}{4}$ inch thick. This gives an open space of $\frac{1}{2}$ inch at both top and bottom.

I also notice, that, with the **T** super, you prefer wood separators to any other material. Now, I wish you to tell me where you get the wood separators you use; what is their exact width, also thickness, for 16 sections, and what do they cost per 1000?

THE WIDTH OF SECTIONS.

I see also that you prefer two widths for sections.

I rather think I should prefer one width ($1\frac{1}{4}$ inch), and use separators between all, as I have no trouble to make bees go to work in them *at will* when in right condition. I like the slatted honey-board very much. I can, however, keep the queen, or brood and bee-bread, out of the sections, even when none is used. But how to do it is the "secret," and is known only to a few.

REPORT.

I have been up in Wisconsin the past season, keeping bees on shares, and returned only a few weeks ago. I had 178 hives in May to begin with—150 good ones, but the rest were weak. I closed the season with 230 good ones and 11,000 lbs. of honey—8000 lbs. being in the comb, in Muth's sections, holding $1\frac{1}{2}$ lbs. each. These $1\frac{1}{2}$ -lb. sections were on hand when I went up there, in May last, and so I used them; but hereafter I shall use nothing but 1-lb. sections. Our hives in Wisconsin had 3 boxes each, holding 10 sections each, with no honey-board. We took 10 full boxes from some hives, and should have taken 15 to 20 thousand pounds of comb honey from all, if I had found things there as represented.

THE VALUE OF ALSIKE.

I had a deal of honey from alsike. The present owners of the bees sowed 90 acres of alsike, in September, by my directions, and I rather think they will have "lots" of honey next year. Alsike is the best honey-plant, all things considered, I know of; and when folks learn how to raise it properly they will quit fooling with other plants. Marvin has a "heap" of alsike growing a few miles west of this city, all secured by following my directions. There should be a thousand acres—yes, 10,000 acres—of it in the U. S. where there is but one now. I saw Marvin a few days ago. He says he would have had but little honey this year had it not been for alsike.

By the by, as you must have seen Betsinger's wire-cloth separators at Indianapolis, what do you think of the idea, when expense and all things are duly considered? Why would it it not be a good idea to have one-fourth-inch holes made through the wood separators, the same as open bottoms for

chairs? Still, this may be of little consequence, as I can force all the honey up stairs at will, anyway. With the Muth box it would be too much bother to use separators. I can get very good combs without separators; still, I think it will pay me to use them hereafter. Again, I have by no means given up the idea that moving bees in car lots from South to North, in the spring, and back again in the fall, is a paying project; nor shall I abandon the idea until the matter has been properly tried. No one has ever yet tried the plan properly. I have now 150 hives at Yazoo City, Miss., which I intend to have filled with bees next spring. In May I shall move them up here somewhere for the white-honey crop. The latter part of July I shall take them to Wisconsin, where there is plenty to do on buckwheat and goldenrod during August and September. By this means I should secure 3 good honey crops in one season. What I shall do with the bees at the close of the season in October I do not know yet.

My hives at Yazoo City have two stories, with 10 frames in each—only 7 inches deep inside of frames. When ready for box honey I use but one set of frames, and use the top sets for new swarms or extracting. The hives were got up expressly for shipping bees from South to North and back again each year, so you see I have had plenty of faith in the project, and still have. The cost of getting a car-load of bees from Yazoo City or New Orleans to Chicago is about \$100; and as 200 stocks in 7-inch hives can be safely brought up in one car, the cost, you see, is only 50 cts. per colony, or \$1.00 both ways, there being no danger of any loss down South during winter; and the bees being able to double their number of colonies, or to gather a good crop of honey before May, I can see no good reason why they should not, while South, pay the entire expense of shipping both ways.

George Grimm has left our ranks. He writes me that the bee-business does not pay well enough to suit him, and is practicing law, having a good business. I am told that he was elected to the Legislature this month. M. M. BALDRIDGE.

St. Charles, Ills., Nov. 22, 1886.

DR. MILLER'S REPLY TO MR. BALDRIDGE.

Your plan of making \perp supers has advantages and disadvantages. It is no more work than my way, possibly less; it has the convenience of having the tins always in the right place in the supers, without the trouble of placing them every time and having them slip out of place, sometimes when putting sections in the super. The loose tins on the other hand, as I use them, admit of taking out the whole super full of sections *en masse*, and I can hardly imagine any way by which the sections can so easily be taken out with the fixed tins. Moreover, in putting the sections in the supers with loose tins, the tins adjust themselves to their places; and when the whole super is filled, the tins can not fail to be in exactly the right place. If the tins are fixed, it will require very exact workmanship to make the spaces between the tins exactly the same in every case.

You say, "Others tell me that the separator needs to be only 2½ inches wide, when of tin, for the 4¼-inch section." I hardly believe it can make any difference as to width, whether the separator be of wood or of tin. In actual practice, I have found exactly the same difficulty with each, when too narrow. Whoever found 2¼ inches sufficient, can hardly have a very extended experience, or else must have had such careful management that separators might have been dispensed with altogether. Now, we know that some succeed quite well without separators; and in case where two sections are built perfectly true without a separator between them, I think the intervention of a separator would make no difference, whether 2 or 4 inches wide. What I want a separator for is to force the bees, under any and all circumstances, to build the combs in sections so true that there will not be the least difficulty in packing. With the separator coming within ½ inch of the top or bottom of the section, this is accom-

plished; but an eighth of an inch more than this gives different results. You see, that ½ inch difference makes just one-third more open space than if ½ inch is allowed, for the wood of the section occupies ½ inch, leaving ¾-inch open space. When this ¾-inch open space is allowed, you can count on an unpleasant number of sections being built so as to project under the separator wherever a section has progressed much in advance of its neighbor, or in any case when work is going on very slowly. If the little projection were all, it would be a matter of less consequence; but this projection is pretty sure to be attached to the separator, and, when detached, the section "bleeds," and this has occurred with me, equally with wood or tin. So, for the 4¼×4¼ sections I want 3½-inch separators, so placed as to make the space alike at top and bottom. Wood separators of this width I get of poplar wood from the Berlin Fruit-Box Co.

I think, if you look again, you will not find that I prefer two widths for sections. On page 42 I say, "I have used a mixed arrangement with some degree of satisfaction," but I have more satisfaction in using only one kind.

I do not use the slatted honey-board to keep the queen out of sections, as I had no trouble in that direction before I used the slatted honey-board. Its great value is in preventing the bees from building bridges of comb between the brood-frames and the sections.

I believe alike to be a valuable plant; but I have quit *fooling* with it, because I have found too great difficulty in getting a good stand. Probably better knowledge on my part would secure better results. It is open to the objection, that, with ordinary treatment, it blooms at the same time as white clover. Still, I am glad to see that some of the farmers about me are beginning to "fool" with it, and I shall be glad if they are more successful with it than I have been.

Without having tried them, the Betsinger separators strike me as a good thing, if not too expensive. I do not know what it costs to get them up. If the material is not so expensive as to prohibit their use, by manufacturing in large quantities he could make them so as to sell for less than any one else could get them up in small quantities, and still make a nice sum.

Your South-and-North project will be looked upon with much interest; and if you make a success of it I think you may claim to be the pioneer among the successful ones, for I take it that others will follow if you succeed.

C. C. MILLER.

Marengo, Ill.

In regard to the width of separators, I think I am prepared to say, from actual experiment, that 2½ inches will not answer for the Simplicity section. As 14 inches is the common width of tin plates, we are in the habit of dividing this 14 inches into 4 parts, giving a separator 3½ inches in width. Now, it is possible that something a little narrower would be safe, and it may be well to go over this matter again, especially if we are going to use the exceedingly expensive material, wire cloth. Friend Betsinger said, at the Albany Convention, that 8 cents per square foot was as low as it could be furnished; and, if I am correct, he charges the same, whether a large or small quantity is used. The same kind of wire cloth has been in our price list for some time, for use in

ADVERTISING WHAT YOU HAVE FOR SALE.

DOES IT PAY? AND SOME GENERAL HINTS TO ADVERTISERS.

IN the office, I believe it is generally considered that the advertising clerk has one of the most difficult and responsible places of any of the girls in that room. It seems that, in spite of any precaution we have been enabled to take, there is almost continually some degree of dissatisfaction. The most comes, however, from taking out an advertisement, or from leaving it out, when our customer wanted it in. In view of this I have told the clerk to be sure to have the mistake come by getting in an advertisement when it was not wanted, rather than to leave it out when it was wanted. Advertisers, like many other people, are sometimes in a great hurry, and they hurry off the notice at the last moment, as it were, omitting or forgetting to say how many times the notice is to be inserted, the length of space they wish to have it cover, and frequently do not say whether they want it in every issue, or only the issues of the first of the month. Let us take an illustration, for instance. The following is the contents of a postal card:

Please put under the department, "Queens for sale," we have for sale 6 very good tested Italian queens, 1 Hybrid, at \$1.00 each, or \$6.00 for the 7. Hybrids, 35c. Send \$1.02 to return your money if queens are sold before your order comes.

MODEL BEE-HIVE CO.

W. Phil'a., Pa., Aug. 23, 1886.

You will notice in the above, that our friend does not say a word about what issue he wishes it to appear in, nor does he say how many times. Under the circumstances, on receipt of such an order the advertising clerk sends back by first mail a printed letter which reads as follows:

Friend.....

Your favor of inclosing \$..... received with an advertisement, which we will insert in numbers, as you request, or until otherwise ordered. As you do not mention the amount of space, or the number of lines you wish it to occupy, or give any instruction as to display lines, we will set it up so as to make such an appearance as we think it ought to present. We will send bills after each insertion, for the space occupied. If the above is not satisfactory, please reply by return mail, on inclosed card, giving us correct instructions. According to our advertising rates, given below, we will credit you with the discount at the expiration of the time you wish it to run.

Yours respectfully, A. I. ROOT, Per.....

You will notice, that, in with this printed letter, we inclose a postal card directed to ourselves, so that our customer may take a pencil out of his pocket and tell us what to do, even while he stands in the postoffice, if he chooses. We prefer to pay for these postal cards, and to pay the postage on the letter we send them in, so that our bee-friends may have no excuse for failing to inform us immediately, if our proposal is not satisfactory. We do this, because it is so very difficult a matter to get people to write and tell

us what they do want. Now, after we have done this, our advertising clerk has instructions to insert the advertisement until we get some kind of notice from the advertiser, saying that he does not wish it continued any longer. It seems to me, that almost any sensible man will say, if there is any thing *wrong* it certainly is not *our* fault. A good many troubles have come up, notwithstanding these precautions. Quite a number of pretty good men—that is, we have always considered them to be such—have refused to pay their advertising bills, giving, as a reason, that they ordered the advertisement stopped. Now, after we have very kindly explained to them that their letter ordering it stopped did not reach us until the journal had gone to press, they still object. In one or two cases where advertisements have been ordered out, the order was written within three days of the last of the month; and yet the advertiser claimed he was under no obligation to pay.

Now, in regard to the postal card we have given above. The advertising clerk inserted the advertisement four times, at a cost of a dollar each insertion, before we got a word from the Model Bee-hive Co. Then he claimed it was ordered in for only *one* insertion, in the first place. He writes in regard to it as follows:

We wrote to you, saying to put said advt. in Sept. No. of GLEANINGS. We left home shortly after the first of Sept., and just returned home last night, and, to our surprise, you had continued said advt. (on examining GLEANINGS), and sent two or three postals, stating amount due you. We wanted said advt. only in Sept. No. If we had wanted it in any other numbers we would have told you so.

MODEL BEE-HIVE CO.

West Phil'a., Pa., Oct. 27, 1886.

As we have published every letter and figure on his order, one can readily see that our friend is greatly mistaken; and the advertising clerk and book-keeper, without bringing the matter to me, wrote him that they could return his order if he wished, to show him that he didn't say a word about putting it in the *September* issue; therefore that we should expect him to pay for his neglect in not notifying us. On my return from the Albany Convention, the card below was handed me, which was sent us, I presume, in answer to a statement in regard to the remaining \$3.00.

We wrote you some time ago, Oct. 27, thinking that you were charging us for running our advt. which we did not order. If you will look up our letter, which will tell you all about it, we do not care to repeat it here. However, of all the advertising we ever did in GLEANINGS, it never paid us $\frac{1}{2}$ of our advertising money back. Make a note of this, and publish it in GLEANINGS, as you never say any thing about those that write you about advertising not paying—only those that say that their advts. paid. Come out with both sides of it, and oblige

Respectfully, MODEL BEE-HIVE CO.

West Phil'a., Pa., Jan. 14, 1887.

I read it over in a little surprise, and asked for the whole of the correspondence in the matter. Now, the advertising clerk, the book-keeper, and, in fact, almost everybody, would say that our friends of the Model Bee-

hive Co. are *entirely* at fault. If they permitted the advertisement to run through neglect, or even through absence from home, there was no one at fault at all except themselves, therefore they should pay the bill. Very likely the above course would be *justice*; but you know, dear friends, I have been talking to you a good deal, not only for months, but even years back, in regard to doing a little *more* than justice by our fellow-men. "If a man compel thee to go with him a mile, go with him twain." I read a little more carefully the letter of protest made by our friend when he received a bill for \$4.00 for advertising, and in it I found the following:

The queens were offered for \$6.00, and you send bill in for \$4.00! Not much profit. Besides, the queens remain unsold. I did not get *one offer*; we did certainly not expect to advertise them to their full value, or else we might as well have sold you the queens for *two dollars*. Besides, it looks bad to advertise 6 queens 4 times. It does not look as if we were selling queens fast. I think common sense or judgment would have told you, or any one else, that we could not offer queens so low, and then spending all the amount for advertising them, to sell them.

MODEL BEE-HIVE CO.

West Phil'a., Pa., Oct. 27, 1886.

Now, there may be differences of opinion here. A good many will say, "Although it does look very bad to pay out \$4.00 for advertising \$6.00 worth of queens, it was entirely the fault of the advertiser for not saying how many times he wished the advertisement put in." It *was* mainly his fault, I agree; but I think, dear friends, he is right in saying that common sense or ordinary good judgment ought to have decided that no man in his senses would wish to pay \$4.00 for the *chance* of selling \$6.00 worth of goods. Who is at fault, then? The editor of GLEANINGS? You may say, "The editor of GLEANINGS, with his multitude of cares, can not go into every little matter like this, without breaking himself down, mentally and physically." The advertising clerk is also burdened with so many cares and so much business that it is pretty hard for her to stop to inquire whether a man knows what he is talking about or not, when he sends in an advertisement. To avoid similar cases I have asked Ernest to examine every advertisement, and be sure that it makes good sense before it is allowed to go into print, and I think he has done his work pretty faithfully. In reviewing the above advertisement of late, he would say at once that it was all straight and consistent. If somebody had asked him, however, if it was probable that this man wished such an advertisement *continued*, he would at once have decided not; but he is already pretty severely burdened with a multitude of cares in his work on GLEANINGS. The proof-reader made sure it read according to *copy*, and that ended his part of it.

Let us now consider the latter half of communication No. 3. He says, in substance, that the advertisements he has put in GLEANINGS never brought him *a third* of the money he paid to have them *inserted*. This is a pretty bad showing for GLEANINGS, dear friends. I am well aware, that a good many

advertisements do not pay the friends who send them. Quite a number have refused to pay for advertising, on the ground that it did not do them any good, and I have been asked to excuse them from paying an advertising bill because the advertisement profited them nothing. I have refused to excuse, on the ground that it was no fault of mine. *Sometimes*, it is true, I am asked if I think a certain advertisement will pay; and I remember that I have, a good many times, replied back that I felt pretty sure that it *would not pay*. Yes, I have sometimes written to friends who wanted certain things advertised, that I felt sure it would not pay, even *before* my opinion was asked. I have been pretty roundly abused once or twice for making similar suggestions. Knowing the supply of queens there was in the market in September, I could have told the Model Bee-hive Co. beforehand, that their advertisement would *probably* do them no good—had my opinion been asked. Now the question begins to assume something of this shape—"Am I my brother's keeper?" To which I reply, "Yes, sir. *I*, for *one*, *am* my brother's keeper." I want God to hold me responsible, not only for my brother's spiritual welfare, but for his financial welfare; and my decision is, that, under the circumstances, we ought not to ask pay for the three last insertions. If my mental strength does not permit me to take a brotherly review of all the advertisements sent in to us, it is my business to employ somebody who can intelligently advise our bee-friends in regard to inserting advertisements. And the moral to this whole long story is, to ask you all* in sending in advertisements, *if you feel inclined*, to ask our opinion in regard to the advisability of inserting said advertisement. We will advise the best we know how, and without charge. This advice, I presume, will cut down part of our advertising patronage, but I shall be glad to cut it down, because I know that a goodly part of it has not been profitable to our hard-working and close-scraping bee-friends, many of them. After having given this advice, you are to act as you see proper, and we can not be responsible for the profitableness of the transaction any further.

TEASELS, AGAIN.

SOME GOOD ONES FROM THE PACIFIC COAST.

SINCE the appearance of a series of articles on the teasel-plant and its culture in one of our local papers, and two or three short articles in GLEANINGS from which extracts were made by the N. Y. Tribune and other leading papers, it has been ascertained that teasels of good quality are grown in Oregon. That fact alone has set our dealers at work, and the result is, that several carloads have already been shipped here and held at our railroad station for inspection and re-shipment to factories. That they are of good size and good quality, there is no mistake; and, for

*Of course, the *veterans* in advertising, who have had sufficient experience to know whether it is important for them to advertise or not, and how much, would hardly care for my opinion in the matter.

ought I could see, are *fully* equal to our own growing. I intend, when I write on any subject, to be accurate, and keep myself posted; but it was this very writing that unearthed the existence of that French colony away out on the Pacific coast, quietly growing their teasels and supplying their neighboring mills. If the quality is good in Oregon and here, I believe there are *many* other places, when found, that will prove to be adapted to the growing of this crop. I had also supposed that the expense of shipping and then reshipping would be too great to warrant any one in raising them if they were far from a market. What I mean by a market is a middle-man, or dealer.

Now, you will ask me why the grower can not ship direct to the factories. We will suppose that the first factory that saw fit to order of you made a specialty of woolen blankets. Of course, for that coarse work they would want "kings," and you would not have enough in your whole crop, of the right size to fill their first order; and your next sale would be as likely to be kings as anything. Without carrying this comparison further, you can see that, in order to deal direct, one must carry a stock of a good many thousand dollars' worth; and, further, the handling, sorting, and packing, is a trade of itself. But if our dealers at present prices (6 cts. per lb.) can pay freight from Oregon, and then compete with us, I think some of my good bee-friends had better look into the matter.

I will answer any question through GLEANINGS that its editor may see fit to ask, but I can not undertake to answer by private letter.

Thorn Hill, Onon. Co., N. Y. C. M. GOODSPEED.

THE NON-USE OF FOUNDATION.

A REPORT FROM W. Z. HUTCHINSON'S OWN NEIGHBORHOOD.

AFTER reading the articles on the non-use of foundation which have appeared from time to time in the bee-papers, I think the "other side" should have the benefit of the following:

Mr. W. Z. Hutchinson has a neighbor, Mr. C. D. Doane, living about two miles distant. In the spring of 1886, Mr. Doane purchased 350 of Mr. Hutchinson's discarded combs. That season Mr. Doane produced 6500 lbs. of honey from 50 colonies, spring count—an average of 130 lbs. per colony. If I am not mistaken, Mr. Hutchinson had 6700 lbs. of honey from 55 colonies, spring count—an average of 121 9-11 pounds per colony. At the close of the season, Mr. Doane's bees had an average amount of 30 lbs. of honey—natural stores—to winter upon, while Mr. Hutchinson's bees had to be fed sugar syrup. Mr. Doane attributes his larger honey product to the combs purchased from Mr. Hutchinson. Mr. Doane's bees increased to 125 colonies. Mr. Hutchinson's increase I do not know. I think the amount of increase would be likely to affect the general result somewhat.

I have Mr. Doane's figures from that gentleman himself, but am not so fortunate with those of Mr. Hutchinson, but I think them correct.

Flint, Mich., Jan. 17, 1887.

M. S. WEST.

We are very much obliged indeed, friend W., for your communication, for it proves this, if nothing more: That friend Hutchinson has an exceedingly good locality—or, at

least, it has proved so during the season that is past. If Mr. Doane increased 50 colonies to 125, and secured over 130 lbs. per colony, he certainly did exceedingly well.

PEDDLING HONEY.

FRIEND COLTON RELATES HIS EXPERIENCE.

IT is very pleasant and agreeable to me to read the reports of those who have been successful in marketing their honey. I have not yet read a report of a failure in peddling honey. This strikes me as somewhat remarkable, as my experience has been quite different from that of those who have reported their success in GLEANINGS. Evidently, those who found peddling honey a poor business thought their report would not tend to the "encouragement of bee culture." There is a short time after our busiest time with the bees is over, and before cold weather has caught us, that we can profitably market honey as peddlers. We can then draw it off from a barrel without the necessity of charging our customers for a tin pail or jar, which, when added to a small purchase, raises the price above the price of comb honey. If you peddle near home you can call for your pails after the honey is used; but peddling near home will not suit the grocerymen who are selling your honey.

A bee-keeper from a town near me told me he had disposed of about 7000 lbs. of extracted honey by peddling it out at 9 and even 8 cts. per pound. He had canvassed, I think he said, nearly every town within one hundred miles of home. In many towns, bee-keepers are trying to keep the price of honey up to something above the cost of production; and when the honey-peddler strikes a town where he can undersell those engaged in the production of honey, his sales are apt to be quite satisfactory. Somehow I can't get very happy and enthusiastic over the honey-peddling scheme. Few bee-keepers will make themselves so notoriously honest, and their honey so perfect, as to be above suspicion for any great distance from home. Brother Root, we do not all have the faculty and experience in advertising that you have, even if we controlled a publication like GLEANINGS, which circulates to a certain extent through all our States and Territories. I rigged out a wagon for peddling, and spent about a week at the business. I averaged a sale of about fifty pounds per day. When I could not sell a pail, I dug out, of a large can, granulated honey, but, of course, found this tedious, as cold weather was gradually setting in. I intend to rig up a sleigh of some kind and continue the fight, even if it takes all winter, and I have no doubt it will. There is no other way left for me to dispose of my crop of honey. I tried, in the latter part of last winter, to get something out of what honey I could not sell at home, by sending it to St. Louis, to be sold by a commission merchant. I realized for the honey, after deducting cost of pails, freight, and all charges, a trifle over two cents per pound. Said honey was well-ripened clover and basswood, but a portion was produced the year before, and kept over, as I could not get rid of it. I got honey in all of the stores near home I could, and they offered it at ten cents per pound. I hope you will publish this, and some one who has had more experience than myself in peddling honey

will show where I have erred in my conclusions on this plan of peddling honey. The point is, can we increase the consumption of honey more by peddling than by leaving it at the groceries? I do not wish the mistake made, that, because we get a fair sale by peddling honey at a price lower than our brother bee-keepers who are already selling low enough, that this policy will be wise in the long run. Our rivals in the business will be compelled to come down also; and when the price gets so low that you can not undersell, peddling will fail to relieve us of the problem of disposing of our honey.

J. B. COLTON.

Waverly, Ia.

WILL HONEY EVER BECOME A STAPLE?

SHALL WE ORGANIZE TO KEEP UP PRICES?

I HAVE disposed of much the largest share of my fifth and largest crop of honey; and although I have not been in the business nearly so long as Heddon or Dadant, I have nevertheless followed it long enough, and at just the right time, to suffer from the most sweeping decline in prices that any natural product has perhaps ever known.

The year 1882 was a good one in this locality, and honey wholesaled at 20 and 25 cts. per lb. I do not like to tell what I have obtained for the bulk of my comb honey this year. Every year since the first one, I have been laboring to develop a market at and near home, and I think I have obtained a pretty fair idea how nearly honey is likely to become a great staple. I am certain of two things; viz., that honey will never become a universal staple, and that lower prices do greatly increase consumption. I can give items of experience which go far to demonstrate these propositions. It is a matter of continual surprise and wonder to me that the majority of folks do not like honey. Not one out of ten whom I tackle on the subject cares any thing for it. I eat over half the honey used in our house; and I find among many of my best customers, that about one of the family is all who takes it. I have pretty much learned whom it is worth while to approach around home.

Springfield takes the largest share of my honey.

I tried an experiment this year, which has taught me much of the lesson I have been steadily learning for four years. With a large crop, overstocked markets, and low prices; with more honey than money, I resolved to try how near I could make the former take the place of the latter. I had some building to do, and I canvassed the city with a view to trading honey for materials, so far as I could. I would patronize him who would patronize me. I found just one lumber-dealer in the place who would trade that way. He would have—how much do you suppose? *Three pounds!* After visiting half a dozen paint-shops I found one man who would do somewhat better. He ordered enough to pay for paints and brush. I canvassed the hardware-stores, without avail. Dry-goods stores and shoe-stores were tried unsuccessfully. I sold 10½ lbs. to one hatter. Almost the unvarying note was, "We do not like honey." It looks like small business at the start, and it turned out so small that I shall not work very much in that line.

As I had a few apples and potatoes to sell, I re-

solved to try the women at their homes. I had had some experience in selling fruit and vegetables some years before, and I had learned that that was the way to make trucking profitable. Women like to have living necessities brought to their doors. There were fruit and vegetable wagons on every street, while I, almost alone, offered honey. Yet I could make six sales of either one of the other products to one of honey. They never interfered with a honey sale either. In the light of my experience, how Mr. France succeeds so well in peddling honey is a riddle to me. Yet I say, that lower prices will greatly increase consumption. The volume of business has vastly grown around here, and I believe it will continue to grow. That this growth is largely due to the fact that the business has been worked up, is no doubt true; but I know very well that a great deal that has been sold this year would have remained unsold at higher prices. For example, Mr. W. sells comb honey at 12½ to 15 cents, and a number of customers, somewhat like one he mentioned, a day laborer, buy considerable at the former price, who purchased but little when it cost more. In 1882 Mr. W. sold about 100 lbs. for me at 22 to 25 cts. In 1883 the price fell to 15 cts., and he sold about 250 lbs. The next two years the crop was short, with prices higher and sales less. In 1885 he retailed at 18 cts., and sold perhaps 250 lbs. for me. This year he has sold lower than ever before; and what is the result? He has already disposed of over 400 lbs., about 120 lbs. being extracted, and I am to deliver him about 150 lbs. of the two kinds this week.

Said Mr. W. to me, "I can see that it cuts into the syrup trade like every thing."

You see, at such prices honey becomes a competitor with other commodities. Four years ago, only a few of the principal stores offered honey for sale; but now the stock in trade of none but a few suburban grocers is complete without it.

Prices will not continue to decline as they have been doing. We shall reach rock-bottom pretty soon. I am very willing that honey should be put within the reach of the poorest. We owe this to humanity. A honey-pool is a chimera. One hundred manufacturers of an article may combine and control the market; but tens of thousands of hog-raisers or honey-producers can not. But if they could, I do not want them to do so. I am opposed to great or petty monopolies, as all such combinations tend to become. We should, instead of trying to keep up the price of honey, do our best to make our industry profitable by producing at the lowest possible cost. GEO. F. ROBBINS, 93-61.

Mechanicsburg, Ill., Jan. 10, 1887.

FEEDERS.

HOW TO MAKE THEM.

"IN times of peace prepare for war," is an old saying. While I hope we in this country may never be called upon to prepare for another war with swords and musketry, yet there is always in this life a need of a warfare, and a preparation for the same, if we would be successful in the undertakings of life; and as in battle the army is most likely to be successful which has been thoroughly prepared in "times of peace," so the person who uses his leisure hours in getting prepared for the "heat and burden" of the

harvest time is the one most sure of success. In nothing is this more true than in bee-keeping; and yet the majority of bee-keepers while away the winter days and months, not seeming to think that another season of heat and toil is coming until the season is upon them. To the truth of this, nearly every supply-dealer can testify; for in spite of discounts offered, and entreaties published and otherwise made during winter, all know that the great rush comes in May, June, and July. These thoughts were brought up by a friend desiring to know how I made my bee-feeders, and saying, "I want to get every thing in readiness this winter for another summer." I predict for that young man a successful life, health and strength being given him. As I have just finished making a lot of feeders I thought it might not be amiss to answer his question through GLEANINGS; for after trying nearly all the feeders ever advertised, I like the best of any the one about to be described, so I have discarded all the others. The idea of such a feeder I got out of some of the bee-papers; but when and where, I do not know. This feeder I call a division-board feeder, yet it is different from any such feeder which I have ever seen described.

To make, get out one piece $\frac{3}{4}$ of an inch square, and the same length as the bottom-bar to your frame, providing the end-pieces to your frame are nailed to the end of the bottom-bar. Otherwise make this piece as much shorter as the two end-pieces of your frame are thick; for it is to hang in the hive the same as any frame. Also the end-bars and top-bar are to be only $\frac{3}{8}$ wide, as a feeder of that width keeps the bees from drowning without a float, while, if wider, a float is necessary. Besides these four pieces spoken of above, you want two very thin boards (I make them 3-32 of an inch thick), the same size as the outside dimensions of your frame, less $\frac{3}{4}$ of an inch at the top, it being supposable that the top-bar to your frame is only $\frac{1}{4}$ thick. In any event there is to be a $\frac{1}{2}$ -inch space between the under side of the top-bar and the upper edge of the thin boards, for an entrance to the feeder.

Next, get some white lead and thin it with boiled linseed oil till of the consistency of thin cream; for all the joints of the feeder are to be fixed so there can be no possibility of leaking. Now with a small marking-brush put some of the thick paint on the end of the $\frac{3}{8}$ bottom-bar, and also on the lower end of the end-bar, where it is to be nailed to the bottom-bar, and nail together, preparing the other side the same. Next lay down your frame, which is complete, except the top-bar, and paint the sides which are up, and also around the edges of three sides of the under side of the thin board where they are to come in contact with the frame. Place the board so it comes even with the bottom and outside of the frame, and nail on, using $\frac{3}{4}$ -inch wire nails, and driving the nails from $\frac{1}{2}$ to $\frac{3}{4}$ inch apart, when the other side is to be treated the same way. Now take the end-bar of a frame and saw it off short enough so it will come up within $\frac{1}{4}$ of an inch of the top of the inside of the feeder, when it is to have three $\frac{3}{8}$ holes bored in it near the bottom, the bottom one cutting out just a little at the end. Slip this down in the center of the feeder, and nail each side to it. This piece is to keep the thin sides of the feeder from bulging out when the feeder is filled, and the holes in the bottom of the stick are to allow the feed to run through from one side to the other, or it will be filled only from one side.

There is nothing more to be done with it at present, except to paint the outside with two good coats of paint, when it is to be set away for two or three months, to have the paint thoroughly dry in the joints. When thus dry, melt five or six pounds of beeswax or paraffine (the latter preferred), heating it quite hot, and pour into the feeder till full, when it is to be poured out again in a moment or two, using it for another feeder, and so on till all are coated with wax on the inside. If the wax is quite hot and the feeder well warmed, it will penetrate the wood to the depth of 1-16 of an inch, which is a double preventive against leaking, while the main object is the keeping of the wood from taking up the feed by soaking, in which case the feeder soon becomes sour, and will sour the feed ever afterward, unless at once taken up by the bees.

We are now ready for the top-bar, which, after having a hole bored in it near one end for the point of a funnel to enter, is nailed on. Our feeder is now complete; and, barring accidents, it will last a lifetime.

HOW TO USE.

To use it, hang it in the hive the same as a frame; and if the colony is at all weak, put it at the side of the hive the furthest from the entrance. In fact, I always use it at one side of the hive; for in that case the slit which is cut in the quilt over the hole through which the funnel is inserted is always in the right place, while otherwise it would not be. Having the feeder in place, and the slit cut in the quilt, insert the funnel, pour in the feed and remove the funnel, when the slit will close up so no bees can get out or in the way. Twenty cubic inches of ordinary honey will weigh one pound, so it is easy to tell how many pounds your feeder will hold. Mine, made to fit the Gallup frame, holds nearly 5 lbs., so I am sure not to run it over, if I feed $4\frac{1}{4}$ lbs. at a time. If I wish to feed more at a time I use two or more feeders; if less—well, I will tell you just how I do, even if it does make this article a little long.

To carry feed, I use a common watering-pot with the rose, or sprinkler, taken off. This watering-pot is set on the scales, and feed poured in till one pound is registered. I now, with the point of my knife, scratch the tin a little at the top of the feed in three different places, about equal distances apart; pour in another pound and mark again, and so on till the vessel is as full as I can carry it, which is generally about 15 lbs. I now pour out the feed, and wash and dry the watering-pot, when I touch a little paint, made of red lead, on each of the places scratched with the knife, and by the side of them I place figures, made with the same paint, from 1 up to 15. When this paint becomes dry I always have a scale of pounds with me which tells me at once how much feed I have, and just what I am doing, as soon as I hold the watering-pot level, and glance down into it.

Now just a word as to why I like these feeders. Placed where I put them, they become a part of the side of the hive; and by knowing that the cluster of bees is next to them (as a few minutes' preparation will always make them), they will take the feed at any time of year if the feed is a little more than blood-warm when fed, so there is no danger of feed not being taken in cool or cold weather. Second. These feeders require no storage room, as they can be left in the hive when not in use, if it is wished so to do; and at such times they can be used as a division-board. Third. The weakest nucleus can be fed with no danger of robbing, when used as I

have directed. Fourth. They are always handy, and no bees are in the way to bother while filling. Fifth. No float is required, as is the case with many of the feeders. Reader, make one or two for trial, during your leisure hours, and see if you do not agree with all I say. G. M. DOOLITTLE.

Borodino, N. Y., Jan., 1887.

Friend D., you have given us some important suggestions in regard to the use of what has been called a division-board feeder; but why not cut into a solid piece of board with a circular saw, instead of having so much trouble to nail it up, and wax and paint it? The solid piece of board would probably hardly hold five pounds of honey; but it seems to me it would be much cheaper and more substantial. There are two or three patterns in our museum that have been sent in at different times. One great objection to these feeders with us was the running-over while filling; but this matter you have very ingeniously remedied.

HOW LONG HAS EXTRACTED HONEY BEEN ON THE MARKET?

FRIEND DADANT'S COMMENTS IN REGARD TO THE STATEMENTS ON PAGE 21, JAN. 1.

FRIEND Heddon, are you not making yourself older than you really are? Did you say 28 years since we have been producing extracted honey? and "during all this time friend D. and his class . . . etc."? I am trying to believe that it is a typographical error, and that you meant 18 years. But even that won't do, as I will show.

Friend Heddon, you have a historical record in the old *A. B. J.* that you ought to refer to once in a while. Let me give a few reminiscences:

In 1865, 22 years ago, the honey-extractor was invented.

In 1868 it was first described in the *A. B. J.*, Vol. 3, page 189.

In 1870, *A. B. J.*, Vol. 6, page 118, friend Heddon reported 523 lbs. of *box honey* from 6 colonies, and stated that he had as yet no "emptying machine." So it is just sixteen years, not 28, since Heddon has been using the "extractor," and producing and introducing extracted honey.

But Mr. Heddon did as we did, and as you did, Mr. Editor; he began by extracting unripe honey. Then came adulteration, which we fought together for 6 or 8 years. Now, adulteration is about scared off, both by our denouncing and by low prices. The principal adulterators even went so far as to publish circulars to announce that they had stopped the practice. But honey has been *very* plentiful for only about three years; and, as I said before, it is *not even now* as cheap at retail as the wholesale prices would justify. In sugars and syrups, there is but a fraction of a cent between the wholesale and the retail price.

Friend H. talks about "all this introducing!" Indeed, a little progress has been made. It took about ten years for us to obtain of the Boards of Trade the special quotation of "extracted" honey, which was going, and is still going, in many places, as "strained" honey. Why tell us that extracted honey will never be a staple, when its introduction is so new that not one person in a hundred knows the difference between strained and extracted?

The people who like honey better than syrup "*only because it costs more*," are the same ones who want strawberries in January and fresh oysters in July. Luckily we do not rely on this class for the sale of our extracted honey, for they will buy only the whitest comb honey, even if it is *horsemint* honey, taste being no object.

Friend Heddon says that the specialist alone will continue bee-keeping, and the small ones will drop out in the near future. Does not this prospect scare you, friend Root? More than two-thirds of your readers are either farmers, doctors, clergymen, etc., not specialists, and you are going to lose them! In answer, let me cite the words of Mr. G. H. Beard, a well-to-do farmer of Winchester, Mo., a bee-keeper, *not specialist*:

"I find more difficulty in selling honey than in raising it, or wintering my bees; but with all that, it is my honey that pays the expenses of my farm in these hard times."

To sum up: Honey is good, better than syrups. It can be produced as cheaply as cheap syrups, and must become a staple, sooner or later. We are too eager, too anxious, when we expect a radical change to take place in so short a time as that which has elapsed since we have found that we could produce it largely. Let us not become discouraged; let us sell *low, and around home*, and create a market for coming years. C. P. DADANT.

Hamilton, Ill.

Perhaps, friend D., I should beg pardon for not having noticed the part referring to 28 years. I recall to mind now, thinking it could not be so long a time, but I did not know where to find the figures readily. I believe I produced the first ton of extracted honey put upon the American market. Mr. Langstroth had made a rude extractor, and tested the sale of the new liquid honey by putting several jars full on the market. I believe a record of all this was given in the *A. B. J.*, although I have not taken the time to look it up. If I have made no mistake, the honey-extractor was described in a bee-journal started in New York just a little before the *A. B. J.* resumed—somewhere about 20 years ago. The matter is of no practical moment, only it may be interesting to know just how long we have been teaching the people to use liquid honey, and I think friend Dadant's closing paragraph is pretty near the truth.

HONEY FROM THE WILLOWS, ETC.

HONEY-DEW ON THE BANKS OF THE MISSOURI.

IT may be interesting to you to know what the bees are doing on the banks of the Missouri at Bluffton, Mo. We commenced with 6 colonies, two of which were in Simplicity hives, the other four being in box hives. They commenced gathering pollen from the willows. The latter cover the islands here in the Missouri River, and are about the first thing to bloom here. On this they built up quite rapidly, and by the time fruit bloomed they were quite strong, when we transferred those in the box hive into Simplicities. It was our first attempt; but by following instructions in the *A B C* of Bee Culture we got through with it pretty well.

Bees commenced swarming earlier than usual, and did not seem to know when to quit. One could

see a swarm passing over almost any day; however, we did not lose any that we know of, neither did we allow ours to swarm more than once.

The white-clover and basswood yield was rather short. Basswood yielded honey only a few days. All the white honey we secured was about 100 lbs.

About the 28th of June we had one of the heaviest rains seen here for years; and after that we had none to amount to any thing for two months. This cut our honey-flow from flowers very short, as it set in very hot and dry just after the rain; but, fortunately, the honey-dew came in abundance, and the bees lost no time in taking advantage of the situation. They would be out at daylight, and from that until about 10 o'clock they seemed almost wild; but during the warm part of the day they would take a rest. This, we suppose, was due to the honey-dew being too thick when the water had evaporated. As nearly as we can estimate we extracted about 450 lbs., and procured about 25 lbs. in 1-lb. sections. We do not know exactly how much we extracted, as we have supplied father's house with honey since our first extracting; and being a family of seven, all of whom like honey, you may know that no small amount was consumed. Neither can we estimate just what it net us per pound, as we have not yet received returns for the greater part of it, but think it will be about 6 cts. per lb. We increased from 6 to 12, and bought three colonies from our brother, who promises to stay out of the bee-business in the future, so we count 15 colonies in Simplicity hives, not in the very best condition for winter, but trust they will come through all right, as they are sheltered from the northwester by a bluff—something which we consider a great advantage to an apiary.

We almost forgot to mention, that our own bees gathered some honey from a tall white flower that grows along the roadside, the name of which we do not know. We consider it equal to any honey we ever tasted. It is of a golden color.

If a hive is opened while the bees are gathering this honey, one can detect the scent of this flower at some distance from the hive. It is a very common weed here, but we consider it a splendid thing for bee-keepers, as it commences flowering in the latter part of August, and continues until frost.

MILLER BROS.

Bluffton, Montgomery Co., Mo., Dec. 31, 1886.

HOW OUR FATHERS DID.

HOW TO SECURE WORKER COMB WITHOUT FOUNDATION.

ACCORDING to the conclusions of several writers who tried to get perfect worker comb without the use of full sheets of foundation, as practiced by Mr. Hutchinson, it would seem as if there had never been any good set of combs before we had foundation. I wonder whether they have never noticed good combs among a lot of box hives to transfer. Wherever such are found it can safely be said that they are built by after-swarms. There may not be many so found, but more regular results can be obtained; and a review of old-time bee-keeping will make it more plain. As stated before, we then kept our bees in straw hives, cone-shaped, and others consisting of rings piled up with flat covers, all wide enough to hold 8 to 9 combs. We put a piece of guide-comb

in the center, and made them build straight. As the hives were all round, it will be seen that the center combs were the longest, and the extreme sides about the size of a hand. In order to get good stocks, with all worker cells, we put in early strong second swarms, natural or driven, and I do not remember of failing to get all worker comb, with the exception that one or at times both of these small side combs were built drone comb, simply enough needed by every colony. I say needed, because, if no drone comb be allowed them they will disfigure other combs or go into the sections for that purpose. In first swarms we expected more drone comb, especially where the queen was older than one year. It may therefore be best to give the latter foundation where new combs have to be built. I used to trim down the lower edges of too tough old comb after swarming, which would be renewed, as soon as the young queen would be pressed for room, with worker comb. If such was practiced before swarming, more or less drone comb would be the result, and that for immediate use. Ever since I have used frames I do the same as I did in straw hives to get worker comb. I put strong swarms with young queens on 7 to 9 frames, 12 x 10½, and seldom see more drone comb than a little on one side. I so treated several last season, some of which are in L. frames. In the latter it is much harder to get full frames, on account of their large size and shape. It is necessary that such swarms be put in early, so that they fill the frames thoroughly; for if left for the next season they are almost sure to be finished with drone comb, unless the hive be inverted to have them finished above, and then there might be some, if they are in need of it.

To what extent foundation can be used profitably depends much on circumstances: what it costs one, whether he makes it himself, what his time is worth, etc. Foundation pays in all cases where no good results can be obtained without it, as in filling out the spaces in transferred colonies, building up of nuclei, late swarms, and adding frames, in increasing generally, where it is hard to get perfect worker combs built. As to moving surplus-cases with new swarms, I have also always practiced it; and as I work mainly for box honey I find it the best way to get even with bees that persist in swarming. It was also Mr. H. who remarked, some time ago, that as much comb as extracted honey could be obtained. Among the few believers in this I am one.

C. H. LUTTGENS.

Hammonton, N. J., Jan. 9, 1887.

WARMING OUR HOMES.

FRIEND TERRY GIVES US A LITTLE TALK ON THE SUBJECT.

FRIEND ROOT:—Some weeks ago I received two letters, thanking me for some things said in GLEANINGS, and asking me to tell how we warm our home. I am always glad to get and answer such letters, for then I know I am writing something that some one wants to know about. Like every other family, I presume, wife and I have our particular notions. For example, we do not like a furnace. Having been brought up around wood fires in stoves and fireplaces, we do not feel quite warm and all right, some way, unless we can see the fire. Then, again, a furnace

would make our cellar too warm to keep vegetables nicely. We want to keep the temperature there at about 34° during the winter. At that temperature apples do not rot nor potatoes shrink and sprout. Therefore we decided against a furnace. Then came the question, "Shall we have grates?" They are very pleasant and cheerful, and ventilate the rooms well, but they burn a large amount of fuel. In other words, a large part of the heat goes to waste. Then they are expensive, and it is a good deal of work to take care of them, and, really, in cold weather one wants to have the house warmed in some other way, when he has a grate to sit by. About the time we were thinking over this question of how to warm our house, after it was built, a gentleman who had just put in a grate, and was loud in its praise, asked me to go home with him one evening and see for myself how cheerful and comfortable it was. I went, and there sat the wife with a heavy shawl around her shoulders, and her feet to the grate. One glance told the story—comfort on one side. Well, wife and I, full partners, as Prof. Cook says, determined to warm our home so it would be comfortable, cheerful, and healthful, having due regard for economy and cleanliness, and so it should be as little trouble as possible to take care of the fire. For the latter purpose we determined that one large stove should warm the three main rooms below, and that it should be a base-burner anthracite-coal stove. To make it healthful we would not live in one room, but in two or three large ones, thus having lots of air-space, and then we would arrange for plenty of ventilation. We looked for a stove where we could see the fire burning all around, so that it would be just as cheerful as a grate. As for comfort, after quite a trial (this is the fourth winter) we think we have found a pretty good supply of it.



Before going further, please notice the arrangement of the main rooms below, as shown in the accompanying plan. This plan merely gives the outlines of the body of the house, without showing porches, bay window, pantry, kitchen, etc. This is sufficient for the point I am trying to bring out in this letter. You will notice, that from the dining-room into the bedroom, and also into the parlor, or living-room, there is a wide double door. These doors are eight feet high, so that, when open, the three rooms are practically one. The stove shown is in a position so central that it radiates heat readily into all the rooms. The doors may be closed so as to warm the dining-room, and either of the other rooms, or the dining-room alone. Ten or fifteen minutes' work will take care of the fire for 24 hours. Directly over the stove is a register opening

into the hall above. From this hall are doors into five bedrooms. The chill can be taken off in these bedrooms, if desired, although a stove upstairs in the writer's office generally answers this purpose. The double doors opening into the bedroom open back into that room, one on each side. Of those opening into the parlor, one is hung on the other, and they fold around in front of the chimney.

As I have written before, our kitchen was built for work. It is just the same size as Prof. Cook's. We eat and live in the *best of the house*—perhaps I should say in the *body* of the house, as the kitchen is just as nice and pleasant as any other room. I pity those poor people who live almost exclusively in the kitchen, or a rear dining-room, perhaps, and open up the main body of their house (not home) only when they have company. I am happy to say, that my wife thinks her husband and children are just as good as any other company. How I dislike to visit where they have to go and build a fire in the best part of the house, and be thrown all out of the regular order of things by my arrival!

As we use it, our stove burns about $4\frac{1}{2}$ to 5 tons of coal between, say, Sept. 15 and May 15. I paid last summer \$25.00 for 5 tons—not a very large sum for the comfort. The fire, of course, never goes out. To keep the entire house warm, upstairs and down, would probably take 8 tons. As to healthfulness, as we use it we consider it all right; but a base-burner in a single room, poorly ventilated, would be another matter. When the children have company in the evening we give them the house below, and wife and I go to our large room (my office, 16 x 18) upstairs. The floor of this room is deadened, so we hardly notice any racket that may be going on below. The bedroom below is used for company.

I have written to you in favor of sunshine in our homes. There are 9 large windows and 2 glass doors in the three rooms. Our room (wife and I) upstairs has 4 large windows, and in a bright day in winter the sun will almost warm it.

I should, perhaps, call attention to the fact, ~~that~~, with a large (a little too large rather than too small) base-burner, properly managed, a gentle, uniform heat can be kept. The stove never becomes redhot, thus burning up the air. One can avoid being too hot one hour and too cold the next, as is often the case with wood-stoves or cheap soft-coal stoves. It is partly on this account, I think, that we have not had more than one-fourth as many colds in our family for the last three winters as we used to have; in fact, they are almost unknown.

Hudson, O.

T. B. TERRY.

I believe, friend T., that I agree with you in the main. I suppose you are aware, that your base-burner could be arranged so as to take pure air directly from outdoors, without very much more expense. With the large number of rooms you have communicating with each other, however, I do not believe I would advise this. It takes very much more fuel, especially during zero weather, where all the air we require is brought by a cold-air pipe from outdoors. We have tested, at different times, almost all arrangements and appliances for heating. I do not like a furnace in the cellar, because there is always more or less liability of leakage that will permit coal gas to come into the rooms. New furnaces often work without this trouble for two or three years; but when

they get old there is great liability of trouble of this kind. Where circumstances are favorable, steam does the business nicely, and the heat may be distributed and made to come exactly where you want it, and no heat where you prefer none. By the way, I presume you meant you would like to keep your potatoes at a temperature of about 34°; and that whenever the weather is cold enough you keep it pretty nearly there. To keep it at all times at or about 34° would require the very best modern appliances for cold storage.

HEADS OF GRAIN FROM DIFFERENT FIELDS.

FOUNDATION OR NO FOUNDATION.

MR. BASS objects to empty brood-nests, when hiving swarms, on the ground that, in his locality, the yield is slow. At the Indianapolis Convention, Mr. Poppleton suggested that my *success* might be attributable to the same reason; viz., a long, slow flow. I do not think the success of my plan would be materially affected by either. If the flow is abundant, the bees are furnished all the fdn. they can draw out in the supers; while if it is slow the bees certainly have abundant time in which to draw out fdn. in the supers. If they can only be started, at the outset, to working with a "boom" in the sections, there will be no crowding of the queen, nor building of drone comb, unless the queen is about to be superseded. Mr. Bass made the mistake of using too large a brood-apartment.

I guess you are right, friend Root; the matter is more complex than it appears upon the surface, and the publication of a few short articles scattered through the various journals does not present the subject in the best possible manner; and I am going to thankfully accept your suggestion and "roll up my sleeves," *mentally*, clear up to my shoulders, and write a little book covering the whole subject of comb-honey production, as I practice it, and have it published in time for use next spring.

W. Z. HUTCHINSON.

Rogersville, Mich., Jan. 7, 1887.

CAN BEES FROM TWO DIFFERENT QUEENS WORK HARMONIOUSLY IN THE SURPLUS-BOXES?

I have received the first three numbers of GLEANINGS, and must say that I am well pleased with it, as an exponent of advanced apiculture. I wish to ask two questions. First, if I make my hive long enough to hold 16 frames (Gallup), and put a solid division-board in the center, with perforated zinc honey-board over all, and two entrances, one on the south and one on the east, the queens being thus confined to their respective chambers, would the bees work agreeably in the upper story of the hive? If so, would there be any advantage in such procedure? Second, are bees more liable to store pollen in sections 1½ inches thick than they are in thicker ones?

J. M. CRUICKSHANK.

Lyons, Ontario, Canada.

The plan you give will not work with any certainty for any length of time, friend C. During the rush of the honey-season, bees from different hives *may* mix up indiscriminately; but as soon as the honey-flow is

over, one of the queens will be balled, and you will eventually have but one swarm of bees. The matter has been thoroughly gone over by having division-boards that shrink, and letting the bees pass through or over them. I think likely the queen would be more apt to go into the sections where the latter were so much nearer the thickness of an ordinary brood-comb, although I have not tested the matter from experience. Can any of the friends inform us?

ALSIKE CLOVER FOR THE SOUTH.

I see in GLEANINGS that you advise Southern bee-keepers to plant alsike clover to better the quality of Southern honey. Will the clover do well here? Will the Chapman honey-plant do? My place is on the Brazos River, subject to overflow occasionally. Will the clover stand it? I saw Dr. O. M. Blanton's report (GLEANINGS for Nov. 1), and he says cypress barrels are the best that he has ever used. Won't the honey taste of the cypress, and ruin the sale of it—if there is any? Dr. B. is an old bee-keeper, and should know. Won't iron hoops do on the cypress barrels, as well as wood? C. F. Muth's price for oak barrels is \$2.00, without any inside coating or paint. They cost here about \$3.00—too much. I find that people don't want to pay for barrels or any other vessel. I receive letters wanting me to ship honey to them on commission, one from Chicago; at the present prices the freight would cost more than the honey would sell for. Some of the parties writing don't give references.

J. W. PARK.

Columbia, Brazos Co., Tex., Dec. 24, 1886.

Friend P., I can not tell you whether alsike clover will do well with you or not. It can be settled only by experiment. But I think you can be sure of this, any way: It can be raised in any locality where red or white clover will grow.—The supposition is, that the Chapman honey-plant will grow anywhere—or, at least, I should feel safe in saying in any place where thistles will grow.—I am not acquainted with cypress for barrels. Will Dr. Blanton tell us about it?—Be very careful about shipping honey—not only to *whom* you ship, but ascertain beforehand, as near as possible, whether the transaction promises to be a paying one. I understand it is not very unusual for commission-men to sell goods for only enough to pay freight, cartage, and commission; and I have known of some commission-men who were very cool about such transactions. It seems to me a fearful way to do business; and if any commission-man has any regard for his patrons, it seems to me he should manage in some way to avoid having goods shipped him, to meet such a fate as this.

HOW TO EMPTY THE HONEY-SACK, WITHOUT INJURY TO THE BEE.

I have often noticed, by writers in bee-journals, and some, again, quite lately, in Oct. GLEANINGS, as well as one number of the *A. B. J.*, where bees are dissected for the simple purpose of getting their honey. As this is not only a tedious and unnecessary operation, and, for that purpose, imperfect, I beg leave to inform the readers of GLEANINGS of a better and more simple way, and one, also, which will spare the bee from any harm. Take the bee the usual way, with both wings be-

tween the thumb and first finger of the right hand. The bee will then put out its sting. Now press the sting gently against something hard—wood or glass: keep on pressing, and keep her as straight as possible. Her extremity is thus made to press against the honey-sack, which compels her to force up to her mouth whatever she has, honey or water, and show you the drop, large or small, between her mandibles. This can then be taken from her with the head of a pin or a pen-knife point, in the left hand, for examination, and the bee left to go for more. If I want to only see the honey or water, I press her against my left thumb-nail, let her swallow it back, and let her go. Several bees can be examined in a minute, as they come dropping on the alighting-board, if desired. C. H. LUTTGENS.

Hammonton, N. J., Dec. 21, 1886.

If we understand you, friend L., your plan is something like the closing-up of a telescope. The abdomen of the bee is contracted lengthwise, producing a pressure upon the honey-sack, causing its contents to be forced out. The idea is certainly an ingenious one, and the bee-keepers owe you a vote of thanks, especially since it helps us to preserve the lives of our little pets. I have seen men take up their beautifully marked Italians as they came in laden from the fields, and coolly disembowel them; but I confess, my opinion of a man who does this falls a notch or two, in spite of myself. I have many times been very anxious to know what the bees were gathering, but I did not like to kill a bee to find out. Once, after I had watched nearly half an hour to satisfy myself, I saw a bee alight with muddy feet, and then I guessed they were carrying water, and I traced them directly to the brook. By means of your invention I could have satisfied myself in an instant.

A PLEA FOR THE SABBATH; HOW TO MAKE SUNDAY SWARMS COME OUT ON SATURDAY.

Several years ago, when I first began keeping bees, I was too ignorant of their habits to make artificial swarming a success, and knew no other way to care for natural swarming than to watch them "through thick and thin," Sundays and all days. Later on, I began to watch only at such times as colonies were about sealing their queen cells. After two or three years my stupid brain took in the situation, and since then I have not stayed at home on Sunday to watch bees. Bees swarm with the sealing of the cells or first cell. Knowing this I keep cells built, during swarming time, from my best queen in a manner costing no extra time or queenlessness of stocks—always, however, being careful to keep the dates, so as to know when a cell will hatch. In order to prevent swarming on Sunday, I look the bees over on Friday about noon. The experienced eye will detect at once such colonies as will be ready to cast swarms in 2 to 4 days. To such give a sealed queen-cell, slipping it between the frames, and on Saturday you may expect, almost with certainty, a swarm from that hive. I give this for those who, like myself, are obliged or prefer to have a day to themselves occasionally, and leave the apiary alone. This method is quick and effectual, Italianizing from your best queen at the same time; and last, but not least, having the Sabbath to yourself. This plan is original with me,

yet I doubt not others have thought it out as well; yet I have never seen it in print. I usually clip my queens' wings.

C. M. GOODSPEED.

Thorn Hill, N. Y., Jan., 1887.

Your idea of obliging swarms to come out when you wish to have them do so is not entirely new, friend G. I know it will sometimes work as you say; but it is my impression, that a good many times it will not. We shall be glad to hear from others who have tested it.

QUEENS BY SPECIAL DELIVERY.

As the delivery system has been extended to all mail matter as well as to all postoffices, it occurs to me that it will be a good thing for queen-rearers as well as for the purchasers. When any one orders a queen, he, of course, wants her as soon as possible. Now, by sending ten cents in addition to the price of the queen he would get her just as soon as she can possibly come through the mails; and if he lives within the delivery of any free-delivery postoffice, or within one mile of any postoffice, it will be delivered to him at once by a special messenger (see "Notice to Public," from P. M. General, posted in all postoffices). There are some whom this would not benefit very much; viz., those that receive only weekly or semi-weekly mail; but I think the majority of the purchasers would be benefited by it. Ordinary fourth-class matter is not attended to in the mails until the first-class has been disposed of, therefore it is more liable to miscarry; but fourth-class matter bearing a special-delivery stamp will be disposed of before ordinary first-class matter, thereby going through with the greatest possible dispatch.

What do you think of it, Mr. Root? Why not say, in your catalogue, that, if ten cents in addition to the price of the queen is sent, you will send her by special delivery? As the queen-trade is over for this year it may come good next year, provided you approve of the suggestion.

S. E. MILLER, P. M.

Bluffton, Mo., Dec. 4, 1886.

Friend M., this matter has been suggested before; but before putting it in the price list, let us have some experiments to see just how it works. No doubt it will many times prove quite a convenience.

DOES THE BUSINESS OF HONEY-PRODUCING PAY?

I wish to ask a question or two concerning bee culture.

1. Is it your candid opinion that the bee-business, when strictly confined to the production of honey at present prices, can be made a success financially?

2. How many colonies of bees will the flora of any one locality support profitably, where there is considerable woodland, and where the white clover abounds in its season? I see there is considerable controversy on this subject, some maintaining that less than 100 will sufficiently stock a district bounded by the distance of flight of the bees from any given place in the working season, while others claim that many more may be profitably kept. I think that, with your experience, you will be able to answer the questions satisfactorily. RICHARD L. CLEGG.

Peoria, Union Co., O., Dec. 20, 1886.

Friend C., I do not know how it is possible to answer such questions as yours. It is just like asking if the strawberry business pays. The answer would be, with some

people, that it pays splendidly; but with a great many, perhaps it does not pay expenses. Again, no one can tell what a locality will do until it has been tested, and this applies both to soil and climate. By reading the reports given in every number, you will see that the bee-business pays *some* people. We also try to have reports in every number, from those who do not make it pay. In regard to the number of stocks in any one locality, it is rarely profitable to keep more than 100 in a place; yet very good results have been made from 150 and sometimes 200 on one spot. I am of the opinion, however, that 50 colonies will gather more honey *per colony* than will a larger number.

AN APPEAL TO THE HONEY-BEE.

Pretty little busy bee,
Don't you make yourselves so free,
Raising cane among your neighbors
With your tiny pumps and sabers;
Going into people's houses,
Crawling up the legs of trousers,
Getting your protectors blamed—
I should think you'd be ashamed,
Stealing sweets from choicest fruits—
Better stop, you little brutes.
Better spend your leisure hours
Pumping nectar from the flowers—
See what a rumpus you are raising
By your everlasting hazing.
Now can't you look this matter over
And get your nectar from the clover?
There's lots of room in fields and glens—
Go there and get your hoists, then,
And don't be putting on such style—
Quit buzzing people all the while.
I'll try you just another season,
And see if you have any reason;
But if you've not, I'll not abhor you,
But have a little reason for you.

J. K. SWIPES.

PHENOL AN EFFECTIVE CURE FOR FOUL BROOD.

If you feed your bees in the early spring, to promote breeding, or even if you do not, make candy as per the A B C book; and when making it, add to it the proper proportion (I use 1 in 700) of phenol, as given by Frank Cheshire. Place the same on top of frames at the proper time, and note the results. In my experience every vestige of the disease will have disappeared unless the colony was too far gone. Please try it, and report for the benefit of others. When I first took up bee-keeping I was very enthusiastic, and wrote considerably for the bee-papers. Well, my friend, let me tell you that, though I have had considerable experience since then, I don't know as much now as I thought I did then; and, though I am learning every day, yet I don't feel so much like rushing off to print it as I did.

A BEE-KEEPER.

A PUMPKIN BEE-HIVE.

We take the following from the Santa Maria (Cal.) *Times*:

One day this week Mr. Shuman, who resides a few miles west of town on the Guadalupe road, was gathering his pumpkins. He placed one on the wagon, from which he noticed bees issuing. Examination revealed the fact that the interior of the pumpkin was full of honey; in fact, it was a veritable bee-hive. The bees had gained access through a crack in one side of the vegetable, and had taken up permanent quarters. Mr. Shuman took out eight pounds of fine honey. Is there any other land under the sun where the farmer can raise his own pumpkins and honey on the same vine?

Perhaps some of our older readers remember this matter is not new, after all. Some years ago the matter of having bee-hives made from the sugar-trough gourd was discussed. Surplus-honey receptacles were to be made of small gourds stuck to the side of the larger one, at the proper point. We should then have, not "sugar in a gourd,"

but honey in a gourd. Probably gourd bee-hives can be produced cheaper than any thing else—that is, if we were going to discard movable frames.

A COLONY OF BEES IN THE OPEN AIR, WITH THEIR COMBS FASTENED TO GRASS AND WEEDS.

Inclosed, a dollar you will see,
For which send GLEANINGS here to me.
By experience, I have found
It is useful, the year around.
In winter, spring, and summer too,
It will tell us what to do.
It also tells us where to find
Queens and supplies of every kind.

In the August No. we read a short but interesting account of "How Bees Work in the Open Air in California." It reminds me of the work of a colony in Northern Indiana during the past season. Instead of building their combs to the limb of a tree, they made their house in the tall grass and weeds. The combs were attached to and suspended by only grass and weeds, and the outer ones were built so as to partially protect the inner ones from rain, etc. Of course, this answered very well for summer, but I am afraid they are not provided with very good winter quarters.

DOES COLOR IN CLOTHING ANGER BEES?

A few years ago, when I first caught the bee-fever I visited the apiary of a German bee-keeper at Valparaiso, Ind. He had in the yard at the time, 90 strong colonies, mostly hybrids, and I thought them about the crossiest bees I had ever met. I had hardly stepped out among them before they commenced operations on me; and as they went at me in force it is hardly necessary to say I retreated. My friend dropped a hint then which I have never seen expressed in a bee-journal; but from experience since, I believe it to be true. He said, "Didn't you know that bees shust hate black clothes?" He always wears a light-colored suit while working in the apiary, and gets fewer stings in consequence.

Westville, Ind.

E. L. REYNOLDS.

G. M. DOOLITTLE, AND HOW DOES HE WORK OVER THE HIVES?

Inclosed find \$1.00, for which please send GLEANINGS for 1887, as I can not get along without it. I like the picture so well in GLEANINGS, "The Apiarist at Work," that I can not help asking Mr. Doolittle to send his picture and a cut of his apiary, with him sitting on his work-bench. Any way, I should like to see 280 lbs. at work.

Bees have, so far, done well on their summer stands. They are snowed under at present, but I hope they will come out all right. J. C. MISHLER.

Ligonier, Noble Co., Ind., Jan. 6, 1887.

If friend Doolittle will comply, we will have an engraving made to satisfy friend M. and others of our readers.

FROM NORTHWEST MISSOURI.

I commenced the season with 48 colonies, two of them queenless, 5 or 6 weak, the rest from medium to good. I increased to 75, and obtained 5600 lbs. of honey—150 lbs. of which was in sections. I have about 350 lbs. on hand yet. The rest is sold at an average of 10 cents a pound. My bees are well supplied with natural stores. I never feed sugar unless my bees are short of natural stores. We have a very good country here for bees, and bee-men are scarce. I know of some very good locations in this part, and cheap, compared with most places in the North.

L. G. PURVIS.

Forest City, Mo.

SWEET CLOVER AS A TREE IN TEXAS.

Editor Gleanings:—You doubtless remember a note I sent you in October, about a plant which grows along the cliffs and rocky lands of our country. I also sent with the note a branch and blossom of the plant, or tree, you might call it, and asked you to name it, but you seemed to be surprised that I didn't know it was nothing but common sweet clover. Well, it's true that I never saw any sweet clover to know it, but supposed it was a weed or grain. For fear you might have made a mistake, or that you did not take much time to examine the branch sent you before, I send you a block of wood sawed from one of the branches, and I ask you to reconsider the matter, and see if you can find a name for it. It grows from six to ten feet high, and is sometimes large enough to make fence-rails out of. The timber is very hard and durable. The shoots are very straight, and often, while out hunting, I have used them for ramrods for my rifle.

J. P. CALDWELL.

San Marcos, Tex., Dec. 6, 1886.

In reply, I wrote friend C. as follows:

I never saw any sweet clover with a stalk as hard as the sample you send; but as it has the very familiar taste of the plant, I think there is no question but that it is the same thing we have here. With us, however, it always dies down in the winter. Do you mean to say that with you the same stalk grows year after year like trees?

Certainly, the plant grows year after year, like any other tree or bush. The blossom is very fragrant, and the mountains are strewn with its delicious flavor twice a year.

J. P. CALDWELL.

San Marcos, Tex.

From the above it seems there is no question but that sweet clover, in climates sufficiently mild, changes its habit to that of a hard woody tree. I presume the leaves, of course, drop in the winter time. The next question will be, Is it still a good honey-plant? If I am correct, with us it frequently produces two sets of blossoms in a season, especially where a severe drought causes it to drop its leaves and dry up.

HONEY FROM HARD MAPLE.

The honey I sent, I think no doubt was obtained from hard maple, a part of it. I had no honey-dew honey—never have had in this State. I get some of the same kind every warm May. The largest colonies get it—the small ones, never. This year I extracted the first of it the fore part of June. Next year I will watch and make assurance doubly sure.

We have much maple timber near us, and we have large colonies early enough to gather it, and I think we fail only when the weather is too cool for bees to work, or the colonies are too small to get it. All my bees wintered in the cellar, and were not brought out till April 15. I failed to get any to show. Their brood probably used up all they obtained.

We regard our last season's experience as 10 lbs. per colony in favor of outdoor wintering, on account of this early gathering. Another spring may not so prove, but we shall see; 80 colonies are now in the cellar, as nice as can be—have been in just a month; 115 are outdoors, which had a nice fly Dec. 11. I have no doubt my outdoor bees will

surpass my cellar bees in early honey by more than 10 lbs. next year.

T. F. BINGHAM.

Abronia, Mich., Dec. 20, 1886.

The subject of hard maple came up at the Michigan Convention, and I asked friend B. to send me a sample of the hard-maple honey. I thought perhaps it might be something like maple molasses; however, it tasted to me more like honey-dew; hence my suggestion, and the above is friend B.'s reply.

HOW TO MAKE MILK PAINT FOR COVERING HIVES, ETC.

I have been reading part first of *Our Homes*, and have commenced making drains, foot-paths, and cisterns, as per your directions. I should like to know just how you make the milk paint that stands so well; also directions how to make the very best kind of cistern for greenhouses. I have only one colony of bees left. I lost all the others by foul brood. I am very busy now with the greenhouses—no time for bees, but expect to try them in a cucumber-house before long.

E. GRAINGER.

Toronto, Ont., Nov. 23, 1886.

Friend G., milk paint is made by stirring water lime, such as is used for cisterns, in skimmed milk. If you can not get skimmed milk, use sweet milk. It will be much cheaper than paint; and if put on new rough boards it will stand for years. If the boards are old, and have commenced to decay on the surface, it will peel off, taking the old surface with it.—I should enjoy hugely taking a peep at your cucumber greenhouses.

THE LOW PRICE OF HONEY, AND ITS COST OF PRODUCTION.

I can not forbear letting you know how well I like GLEANINGS. I take several very interesting papers; but when I get GLEANINGS they all have to wait until that is read, even to the advertisements, for I am always anxious to know all that is going on in the bee-world, even to who has got something to sell, and what it is.

I should like to say a few words on a subject that is being ably discussed by several of our leading bee-masters; namely, the low price of honey. In the years gone by, bee-keeping has been highly profitable where any effort was made to make it so, and why? Simply because it was not very much of a business in those days. There were but few specialists then in the business; the farmers produced the most of the honey-crop, and but a comparatively small amount was then placed on the market, and it brought fancy prices. Now the large numbers of specialists engaged in the business are placing so many thousand tons of honey on the market that bee-keeping is being forced down to a business basis, and I do not think it is quite down yet. In the near future I expect to sell a nice article of comb honey for 10 cents per lb., perhaps for eight; but if I can get to winter my bees successfully, I am satisfied that I can raise it for that at a profit.

G. E. HUTCHINSON.

Rogersville, Genesee Co., Mich.

May I caution you a little in regard to being in too great hurry to get the price of honey down? It will get down fast enough without any such suggestions as you make. I think you will find it close enough work to produce comb honey at 12½ cts. *wholesale*, to

say nothing of 8 and 10 cts. Enthusiasm is a good thing, but it does not always pay debts and get us out of cramped places.

GETTING THE MOTH OUT OF COMBS BY MEANS OF SUN HEAT.

Moth worms may not trouble you any, but here they are very troublesome as soon as the combs are away from the bees. Picking them up with a pin is a long job, and sulphur fumes are not always handy. As there may be some who, once in a while, will have combs with worms in, I will give you my way of killing them.

When the sun shines bright and warm I take my combs, two or more at a time—this depends on how warm the sun is, and set them where it will shine directly in the cells. In a short time the worms will begin to hunt the shady side, when I turn the combs over and repeat the operation till the worms have all left, or are dead. By being careful, not a cell will be injured, even if the sun is warm enough to melt the comb entirely, if left a few minutes too long.

AUG. LEYVRAZ.

Francis, Fla., Dec. 24, 1886.

I have noticed, that when combs were set out in the sun, the worms crawled out of the cells, but it never occurred to me before that it was the heat of the sun that made them vacate. If your plan will scare them all out, it is certainly quite an item, especially where black bees are kept.

TENEMENT PLAN OF WINTERING.

When spring opened last season, we had 58 colonies with which to begin the season. Fifty of the number were in good condition to gather honey. Our crop, 3000 lbs. of comb honey in one-pound sections, and 1500 lbs. of extracted, was of extra quality.

Twenty-three colonies were wintered in chaff bee-houses, made to winter four and eight. They came out in fine condition. I think this plan of outdoor wintering is one of the cheapest and safest plans known, and one of the most convenient. As they are made adjustable, all bulkiness of hives in the summer time is avoided, and they are also a great protection in spring, against the cold wind. My apiary of 123 stands will be arranged on this plan in fours, two facing the east and two facing the west.

We have tried to see how much honey we could sell here at home, and I think we did well, considering that the number of inhabitants is less than one thousand. When we began to sell honey we held ours at 15 cents. In a short time the farmers began to bring in honey, selling it at 10 cents in the comb, but we have managed to get 10 cents on an average for it, and have sold 1500 lbs. at home, and expect to sell more. W. S. DORMAN, 58—123.

Mechanicsville, Ia., Jan. 12, 1887.

LICKING STAMPS.

See here, friend Root; don't object to people rubbing postage-stamps on their hair, as Mr. Waller suggests at the bottom of page 27 of GLEANINGS for Jan. 1, to prevent their sticking together. Your objection is, that if hair-oil is used the stamps will be greasy, and won't stick, and that "t'other fellow" might "lick his tongue on the stamp after it had been rubbed on greasy hair." Now, a better way is to not have that "t'other fellow" nor any one else "lick" postage-stamps at all. Sometimes

they get licked too much and don't stick well, and get lost from the letter or package. Just let them, that is, that "t'other fellow," and everybody else, lick, or wet the corner of the envelope, and then place on the stamp without "licking" it. If one has lots of letters or circulars to stamp, just lap a lot of them, leaving room for stamps uncovered, and, with a small wet sponge or cloth, wet all at once, and then put on a large number of stamps in a twinkling.

A. B. MASON.

Auburndale, O., Jan. 3, 1887.

NOTES AND QUERIES.

WILL BASSWOOD GROW FROM CUTTINGS?

WILL linden (basswood) grow from cuttings? If so, when should they be cut, when planted, and how should they be treated, from beginning to end? Will they grow as fast as cottonwood?

U. H. WALKER.

Sabetha, Kan., Jan. 10, 1887.

[They will grow from cuttings, but it requires an experienced hand to do it. The subject is fully treated in our back numbers. I think they will grow fully as fast as cottonwood. The cuttings require a special treatment that makes it somewhat expensive; and as seedlings are offered for \$10.00 per 1000 or less, the decision was that it would not pay to grow cuttings.]

ALSIKE FOR PASTURAGE.

Alsike makes splendid bee-pasture. It is hard to beat for hay for horses or cattle. They prefer it to any other hay.

S. H. F. SCHOULTE.

National, Iowa, Dec. 29, 1886.

AN APIARY NEAR WATER.

If an apiary is located near a river or lake, or on an island of 10 acres, would many of the bees be drowned?

CHAS. F. CLARK.

Cokeville, Wyo.

[Unless there are high winds or stormy weather, we think there will be very few bees lost, under the circumstances you mention; in fact, a few colonies have been kept under similar circumstances, with very good results.]

OMITTING SEPARATORS, ETC.

Please let me know if the criticisms of some friends against the practice of omitting separators between section boxes are well founded when the boxes are notched all around, as lately suggested, and I believe practiced, by friend Foster.

Knoxville, Tenn., Dec. 7, 1886. ADRIAN GETAZ.

[My impression is, friend G., that even with friend Foster's plan of working, we can not afford to omit the separators, if we want to have real nice straight honey.]

A REPORT IN REGARD TO BARNES BROTHERS'

FOOT-POWER BUZZ-SAW.

I bought a new combined Barnes machine, with treadle, and a crank attachment. It was the fourth machine I have bought of their make. It is very much better than the old combined. I have used both.

G. M. MORTON.

Smithboro, N. Y., Nov. 27, 1886.

I should like to ask Ernest if he introduces virgin queens to nuclei in the same way as described on page 1000, Dec. 15.

GEO. W. COOK.

Spring Hill, Johnson Co., Kan., Dec. 22, 1886.

[I have never tried introducing virgin queens by the Peet process, as described in Dec. 15th issue, but I presume that it could be done. D. A. Jones claims to do it successfully; and if it can be done at all, I believe that the Peet cage will do it successfully.]

THE CHAPMAN HONEY-PLANT.

We find the following paragraph in the *British Bee Journal* for Jan. 6:

We may here mention, that Mr. Cowan informs us that he has grown *Echinops Sphaerocephalus* for eight or nine years, and classes it high as a bee-plant.

CAN FOUNDATION GIVE FOUL BROOD?

Does you think foul brood can be spread from foundation made from diseased comb?

CHAS. H. VAN VECHTIN.

Victor, N. Y., Nov. 22, 1886.

[I do not believe it possible, friend V., for foul brood to be communicated in the way you mention. In making foundation we always melt the wax, and the temperature of melted wax is death to any fungoid or animal life.]

HOW \$3.75 INCREASED TO \$15.00.

I want to tell you about my bees. This summer, the last of June, I bought 1 lb. of bees and a queen, and put them on 10 frames of old comb, and they are a nice large swarm, now worth \$15.00, and they cost me only \$3.75 for bees, queen, expressage, \$1.00 worth of sugar, and my time. Pretty good, isn't it?

Jackson, Mich.

CLARENCE W. BOND.

THE BARNES SAWS.

I write you in regard to the Barnes foot-power saws. Do you think I could saw four-piece sections with it? White poplar is what I intend to use. I am a rather stout man.

W. D. SOPER.

Jackson, Mich., Dec. 8, 1886.

[Yes, friend S., you can saw four-piece sections with the Barnes foot-power saw; but I think that, even if you are a stout man, you would begin to think of an engine before you had sawed many thousand, especially if you try to produce them at the figure they are now advertised. If you think best to try it, we should like to have a report from you in regard to the matter.]

FINE WIRE FOR SEPARATORS.

Have you ever tried fine wire stretched on your broad frames, about $\frac{1}{4}$ of an inch apart, for separators? I can't see why it would not answer, and be no hindrance whatever to bees passing in any direction through the openings in the sections.

D. S. BENEDICT.

Ludington, Mason Co., Mich., Dec. 20, 1886.

[We have never tried fine wire, friend B., although the matter has been suggested before in our back volumes. The difficulty of putting them on and keeping each one of them stretched tight is what deterred me from testing it. Besides, after we got them on, unless the wide frames were handled very carefully they would be very easily injured. If any of our readers have ever tried it, we should be glad of a report.]

A HONEY-CUPBOARD—HOW TO MAKE.

Will you please inform me how to inclose a honey-cupboard? I am making one to hold about 1000 lbs. of comb honey. A show-case will form the top to hold sections or prize boxes. Would you inclose the lower part with wire screen, to keep air to the honey, or with lumber?

F. S. THORINGTON.

Chillicothe, Mo., Dec. 2, 1886.

[Friend T., I believe it is not usual to keep such a quantity of honey in a cupboard; and before we can tell whether it had better be inclosed in a wire screen or lumber, we should like to know something about the room that contains it. If the room is one where it does not freeze, and the air is comparatively dry the year round, wire cloth would perhaps be best; but if there is danger of frost enough to make a precipitate of moisture on the surface of the honey, you had better shut it up as tight as you can, with boards.]

REPORTS DISCOURAGING.

THE HONEY SEASON OF 1886 ON THE LOWER MISSISSIPPI.

MR. EDITOR:—The honey season of 1886 is past, and for this locality I have to record an almost absolute failure. I began the season with 125 colonies, very strong. A cold spell in April struck the apiary, and all of the strongest colonies were left with chilled brood. I lost over 20 colonies from this cause. Those hives had from nine to thirteen combs filled with brood, and did not have bees sufficient to cover the combs during the cold spell, and the brood died from cold; hence I had not one fair-sized swarm during the entire season. The cold, late, and wet spring hung on so late that I got only two barrels of white-clover honey, of a very dark color, with my 125 hives, compared with the $11\frac{1}{2}$ barrels of fine white-clover honey from my 67 hives the previous year. The bad weather hung on all season. The weather was so cool and damp that honey secretion was almost entirely suspended. My bees nearly starved during August, and only the strongest were enabled to raise brood enough to carry themselves over winter. Those deficient in brood late in the fall are dying off very fast, owing principally to the warm winter weather we have had so far. The bees will fly out and get chilled and are lost, thus depleting the hive of the bees so necessary in spring. Where this dwindling is going to stop, I can't say yet. I have carried in, so far, 15 empty hives. Almost all have plenty of honey, and none are in need, but the bees would be so few that they could not hold out, and died, in some hives, with honey all around them.

I put by, for winter, 85 colonies, left from the 125. I began the season with 70, and have that many now, some of which are very good, and many very weak. The warm winters are a great drawback to bee-keeping here. If it would get cold enough to compel the bees to stay in the hives till spring, one would have full hives of bees to begin business with; but the warm days allow the bees to fly out and get lost, and to wear themselves out with exercise in the hives; and, as a result, only the strongest hives, with an abundance of late-hatched bees, will be strong in the spring. How many more colonies will die out before March, is a question I can't answer. They don't want feeding, as they have plenty of honey, but many of them do want bees.

My yield last season was 35 lbs. of extracted honey per hive. This, with a loss of 55 colonies, and New York and Milwaukee for my markets, and a net price for my honey of a little over 4 cts. per pound, does not conduce to make me liable to lose my mind in my enthusiasm over bee-keeping in Louisiana—at present, at least. When I read of Dr. O. M. Blanton's little report of 70 lbs. per colony and 60 barrels, I felt he ought to be ashamed to complain. What would he do with only 35 lbs. per colony? I have tried to look somewhere for the traditional ever-present silver lining, but I haven't seen it yet. It may yet come from behind the plainly visible, lowering, dark-gray storm-cloud gathering in the west; and when that passes by I may look again upon pleasant sunny weather with my bees. In the meantime, I'll wait and see.

Hahnville, La.

3—C. M. HIGGINS, 125—70.

MYSELF AND MY NEIGHBORS.

And why beholdest thou the mote that is in thy brother's eye, but considerest not the beam that is in thine own eye?—MATT. 7:3.

IT was at the close of the Sunday evening prayer-meeting, and my sister was speaking about the revival held at one of the other churches in our town. She said the pastor of that church had wondered I had not been present, for he supposed, from what he knew of me, I could not stay away when a revival was going forward. As it was near church time I passed along with the crowd and was soon seated right in front of the pulpit, the usher probably thinking that there was where I ought to be. The revival work was conducted by a lady. I had heard her speak once before on temperance, and I was not very favorably impressed with her abilities. As an illustration, among other points she made she called attention to the fact that farmers have much more trouble in getting their corn to come up in the spring, of late years, than they used to have. I am well aware of this, and our agricultural papers have discussed it. But the speaker gave as a reason, that it was God's judgment on the farmers for selling their corn to the distillers. As she stood before me that evening my mind reverted to the incident above, and I could not or did not have very much faith in her ability to lead souls to the cross. As I looked about among the people that were gathered before me, without hardly knowing it I was encouraging a disposition to criticise the friends and neighbors around me in the same way. The large church soon became very much crowded, and seats were placed on the platform, close up to the pulpit, so that many faces were before me, and a grand opportunity was afforded for studying humanity. I profess to have much charity, and love for unity among the churches, and I have often exhorted toward this same charity and love for our neighbors among the various churches of our town. But this evening it was very natural to see faults, not only among those of my own sex who had gathered there in their Sunday best, but even among the young people of the opposite sex. I have before alluded to this temptation of mine; and as it comes up every now and then, I presume it must be one of Satan's strong points with my poor self.

During the first half of the sermon I found fault with most that was said. The text was "Eternity," and the speaker pictured hell in horrible colors. She said eternity is so great, that, if a bird could fly from the sun to the earth, and take a grain of soil in its bill and fly back again it would, in the process of time, carry this whole earth to the sun; but this great period of time would be as nothing compared with eternity. The thought was, that everlasting punishment would be ages and ages longer than the lapse of time illustrated by the above figure. I want to say here by way of parenthesis, that, to my way of thinking, such illustrations are not wise or in good taste. It seems to

me we are transgressing on the domain of the Almighty when we use figures of this kind; and very likely I shall always think so, even though it is a fact that ministers of various denominations are in the habit of using such figures quite often.

She changed her theme toward the close, and her talk fell in with my line of work. She spoke of visiting the jails and prisons, and finally I so heartily indorsed the grand points she made that I should have felt guilty had I kept silent. I added emphasis to one of her remarks by an earnest "Amen." Now, please have charity for me when I tell you that, heretofore during the sermon, I had, much of the time, turned my eyes away from the speaker. I disliked her, and her face was not pleasant to me. After that indorsement by the amen, I began to see something different in her expression—something that was pleasant and attractive. Christ's spirit seemed to shine forth from her countenance. Soon after I caught a glimpse of some of the faces near her. How strange! Christ's spirit seemed to shine forth *now*, from those faces also; and as I looked about me the whole audience had been transformed. Instead of narrow-minded people, and people whose faces showed a lack of intelligence, I beheld humanity in the likeness of God the creator. Had they changed under the influences of the earnest preaching? Why, bless you, no, dear reader; *my own heart* had changed, and the people and the speaker were exactly as they had been. Christ's spirit had *finally* found a lodging-place in my own heart; and is it at all wonderful that I loved everybody? Their faults and imperfections had faded away off in the distance, and the charity and love in my own heart enabled me to see their lovable traits, and the God-like part in them all.

The services lasted a good while, and it was late when I got home; but for all that, as I told my wife about the meeting, and knelt by our bedside, I prayed that this better spirit might go with me through the coming week. That prayer was answered. Are not *such* prayers *always* answered?

I want to stop a minute, however, before considering that coming week. Others may have felt like criticising our public speakers and evangelists in the same way I have mentioned. Well, suppose our sister *did* say that it was selling corn to the distillers that caused the trouble with the seed corn; and suppose, too, she *did* picture eternal punishment in such awful colors as to frighten the youngsters, who shall say her figure was overdrawn? Ask our best thinkers of the day how terrible are the consequences of choosing evil rather than good. I have seen men deliberately decide to follow Satan. I have seen them go down step by step. I do not know where the end will be, but I think it very likely that neither *human tongue* nor *human imagination* would be able to picture the terrible consequences of such a choice. Why, then, should I find fault with the speaker?

Among the thirty or forty that gathered to the anxious-seat at the close of the meeting, there were a good many children. There

was one boy who used to swear on the streets so fearfully that the neighbors all felt troubled about him. There he stood right before me with penitential tears in his eyes; and when the speaker, in motherly tones, gave him Christian counsel and encouragement, I inwardly prayed that God might spare and bless her even more abundantly. When I saw the teachers from our public schools join in the work, and come forward to the anxious-seat to exhort and encourage their pupils whom they found there, I said in my heart as did Jacob, "Surely the Lord is in this place."

I felt the influence of that meeting during the whole week. During the first day of the convention at Albany, the low price of honey was discussed, and several of the honey-producers felt as many of our farmers do now, a little sore about the price they were receiving for their products, and they very naturally felt like blaming somebody. One speaker made some remarks in regard to the middle-men and commission-men. Another suggested that the latter were a useless class, for they get all the profit while we do all the hard work. A third condemned them as a whole, and some of the terms he used were not very complimentary. I began to feel that they were getting into the same spirit I was when I first sat down in that revival meeting, and it seemed to me as if God called on me to enter a mild protest. They readily gave me the floor, and I asked if it were not probable that there are good men and bad men among honey-dealers as well as among honey-producers.

"Dear friends," said I, "let us be careful how we condemn indiscriminately any class of people; and, above all, let us not say unkind things of any brother *behind his back*. If a bee-keeper has plenty of time, and with it the ability to retail his honey, or to furnish it in any way directly to the consumer, *by all means* let him do so; but if he has other business that pays him fair wages, and if, like many of us, he has discovered that he has no talent for *peddling* and selling in little dribs, by all means let him employ somebody who *has* this talent, and then every thing will be pleasant and there will be harmony. If a middle-man pays him so little that he can not afford to employ him, it is his privilege to trade some other way. If the commission-man he selects fails in selling the honey at the price wanted, try some other *man* or some other *way*; but through it all, let us have charity."

There was another thought I did not give then, because I did not wish to take up so much time, but I will give it here. At the convention, middle-men were accused of *doubling* on the honey, when they buy, and sell at *wholesale*. This may be true in some instances, but I think not often. Middle-men often have many vexatious losses as well as ourselves. A. C. Kendel, of the Cleveland Seed Store, invested several thousand dollars in a cold-storage room of the most approved construction. The very first year he tried it he lost \$2000 clean cash; he lost it, too, I verily believe, in trying to help farmers and producers, by taking produce when the market was glutted, rather

than have it a total loss to the producer. During the present winter, however, with the benefit of the experience of the year before, he has succeeded so finely that he has already pretty nearly or quite made up for the losses of a year ago. At the Forest City House, where we took dinner, grapes and other fruit were on the table, from his cold-storage room. They were as fine in the middle of January as any fruit I ever ate at any season of the year. Now, friends, I have no doubt but that Mr. Kendel is getting twice as much for those grapes as he paid for them; and one who has no conception of the care and anxiety, as well as money it cost to enable him to do this might say, "Just look at it! he paid us only 4 cts. a pound for those very grapes that he is now selling for 10 and 12 cts." The above figures are given at random, only by way of illustration. One thing I do know, and that is, that middle-men are often obliged to sell honey as well as fruit at a great loss; they take risks where they buy things of this kind out of season, and they must have their profits. In my remarks I suggested, if I am not mistaken, that we should invite the honey-dealers to be present at our conventions, that we might hear both sides of the question. About this time our good friend L. C. Root suggested that one evening be devoted to the consideration of the honey-market, and that middle-men, commission-men, honey dealers and consumers, be invited to be present and give us their views. Accordingly an evening was appointed; and as the invitation was given through the press, a large number were present—perhaps 200 or more. During the midst of our talk a fine-looking young man came up hurriedly to the platform, and threw off his overcoat with an air that seemed to imply that he was squaring himself for a fight. His first words were something like this: "Ladies and gentlemen, I am a middle-man;" and then he gave us one of the finest talks in regard to the sale of honey I have ever heard in my life. Some one had doubtless repeated to him the unkind words that were uttered the day before, as seemed evident from some of his remarks. His name is Mr. Henry R. Wright, and his place of business is 328 Broadway, Albany, N. Y. I extract the following report from his talk as given in one of the Albany daily papers:

"I sell honey; I am not a producer. I consider honey a staple, not an article of luxury. I think the low prices due to over-production. I should like to see a uniform style of comb adopted, something like this. [The speaker exhibited an unglazed frame which would contain a comb and about 11 ounces of honey.] Two-thirds of the honey produced is buckwheat. I sell 100 cases of buckwheat to 10 of the others. I sell from \$10,000 to \$20,000 worth of honey a year, and I don't make a specialty of it either. [Applause.] My experience shows that an unglazed package of about 10 or 11 ounces that will sell for 10 cents is the most popular, and if a uniform package of that size could be adopted it would increase the sales of honey, and be of benefit to the producers."

The speaker had a number of the frames of the size shown by him disjointed, and he said any one who wanted one could have it. There was a scramble among the members, and the frames soon disappeared.

The little frames he exhibited were about the width of our one-pound section—perhaps a little narrower. They were oblong, something the shape of a testament, perhaps. He prefers them oblong, because, as he expressed it, it made more of a show of surface of comb honey. The reason he preferred buckwheat to basswood or clover was because it enables us to give consumers a bigger chunk for a dime. His whole enterprise is based on the idea of selling the honey at 10 cts. a cake. I replied to him, and suggested that we use the ordinary Simplicity section, $4\frac{1}{2} \times 4\frac{1}{2}$ in., making it thinner instead of smaller or different in size. But his experience had been entirely with the oblong section. As buckwheat is so rarely in sections in the West, we should probably need to make ours so as to hold a little less than 10 ounces—say 8 or 9 ounces. Mr. Wright told us he had sold from \$15,000 to \$20,000 worth of honey in the city of Albany during the last year, all put up in the kind of sections recommended. He said the supply had been out for some time, and he would be glad to contract for a large amount of this honey for another season. I do not know whether he is prepared to answer inquiries in regard to this matter or not; but I do believe the coming honey-package is something that can be retailed for an even dime. One of the strong points he made on it was, that any average family will eat it all up and "clean up the platter"; there will be none of it left to set away to daub the dishes and draw the flies. Besides, a great part of the laboring population are in the habit of buying their supplies for the table, 10 cents' worth at a time. If you will tell them the price is 12 cents or 15 cents, they won't buy it. If it is only a dime, off it goes. Mr. Wright does not retail at all. He furnishes grocers and retail dealers. I do not remember how many of these 10-cent sections were in a crate, but I suppose it does not matter materially—anywhere from 12 to 24, perhaps. He takes the honey all on commission. Two-thirds of the value is paid in cash to the producer when the honey is laid down, and the remainder when sold. He buys by *weight*, but the consumer purchases, as I have said, by the *piece*. In view of this it is desirable that the sections of honey should weigh as nearly alike as possible; and to do this we shall have to use separators. Now, then, friends, all these valuable points were brought out by a pleasant and friendly talk with one of our much-abused *neighbors*; and the moral to my little story to-day would be this: May be the neighbor whom you are abusing and calling names is this minute both able and willing to help you very materially if you will treat him as you should always treat *every neighbor*.

Since the above was written I have talked with our foreman about this dime section; and as it is very near the dimensions of the sections we make and keep in stock, known as six to the L. frame, perhaps this will be the most desirable size, as it will fit all of our hives and packages. If we are to sell clover and basswood honey for 10 cts. a section, we can not have it contain more

than 8 or 9 ounces; and to do this, the section mentioned above, six to the L. frame, will need to be about an inch in thickness; if separators are used, may be $1\frac{1}{4}$ inch. Have any of our readers ever experimented on a section of this size? The comb, you will notice, will be about of the thickness of an ordinary brood-comb. It will be a little card of honey for 10 cts. Mr. A. A. Rice, of Seville, O., has sold sections quite similar to the above. He gets them filled by putting them in an ordinary brood-frame in the lower story or the brood-apartment.

OUR P. BENSON LETTER.

ROOTS FOR SWARMIN BEES.

BEES has to be swarmed evry summer.

Thay cum out to be swarmed of thair oan ackord. Moastly on a hot day.

Hwen thay cum out, poot on a overcoat—fur is best. Thay like to feel the soft fur and will role over and over in it, forgittin to sting. Poot on thick woolen mittens and ty a string around the wrists. Also ty up the ankels. Poot on a son bunnet and ty it tite around the neck. This will maik you middlin warm.



P. BENSON, A. B. S., REDDY FER STINGS.

Then go out and look if the swarm is still thair. Git three (3) vales and ty over yure son bunnet. If you hed oonly one (1) vale the bees mite chaw throo it. This will maik you a little warmer.

Tell yure wife to look you all over kind o careful like and see if thair izzent a nole ennywhair whair a bee mite break throo. Then go and git a hive. If you hevvent got enny, that will be better. You ken go over to the nabers to borough 1, & it will amoose the naber's children to see you drest up so cumfearable like. You woont ken git enny to the nabers so you ken cum home on a run and maik 1 out of a old box or nail keg. This will help to warm you. I forgought to say that hooever 1st sees the swarm cum out must yell for the rest, & all hands must kommens to keep up a noise. The oald wooman ken pound on a tin pale with a pint dipper, another ken blo a horn, and 1 ken jinggel a cow bell, and 1 ken hammer on a tin pan, and 1 ken hammer on another tin pan, & all ken holler, exseptin the horn.

he kant holler. Keep the noise & racket agoins steady. If thay is enny nabers thay cood bring sum moar tin pales & things & maik sum moar racket.

After you git yure box or nale keg reddy, rub on sum tanzy tea. This will help to charm the bees, but I cood sell you a bottel of P. Benson's Bee Hive Elickser that is shure evry time. Anuther time I will tell you whot els to doo, but keupe up the racket till then.

P. BENSON, A. B. S.

P. S.—Printer poot in that A. B. S. stans for Apiculturistical Beekeepin Sighentist.

THE CONVENTION AT ALBANY, N. Y.

CONTINUED FROM PAGE 46, LAST ISSUE.

THIS convention was one of the best and most profitable that it has ever been my good fortune to attend. To give in detail an account of all the valuable things that came up and were discussed, would make quite a book in itself, therefore I shall have to notice briefly the most important points.

The question as to what to do with our honey was the most absorbing topic, and there was some considerable complaint of overproduction, but not quite the customary amount of censure because somebody else had done or had not done so and so. Blaming editors of bee-journals for urging everybody to go into the business, occupied a portion of the time. Then came the question, are there too many already in the business? and is it best for some of us to give it up? Mr. L. C. Root, son-in-law of "Father Quinby," as he is called in York State, was one of the bright spirits of the occasion, and I understand he has been one of the old wheel-horses in the convention ever since its start. I learn, also, that Father Quinby was founder of this same convention; that he had met and taken part in its deliberations on the very floors of Agricultural Hall, which we were then occupying. I hope my two good friends, Prof. Cook and L. C. Root, will excuse me for saying that L. C. Root seems to be to the bee-keepers of York State just about what Prof. Cook is to the bee-keepers of Michigan; and I think the inhabitants of these two States may fervently thank God for two such men—men so devoted to the best interests of the youth of our nation; and men, too, who are laboring so earnestly to have godliness and righteousness prevail. Among other good things brought out by L. C. Root was a little talk which he prefaced with the following, in his own words, as nearly as I can recollect.

IS OUR PURSUIT A WORTHY ONE?

"Now, friends, before going very far in this matter of giving up the business because it does not pay, let us look at it a little. Is bee culture a worthy pursuit? Is the industry one we may be proud of? When a young man starts out in any sort of business, if he does not he certainly *should* inquire, 'Is this kind of work laudable, and will the world be benefited by it? Is it a respectable calling?' I am glad to be able to point to you the words of Holy Writ where it says:

Butter and honey shall he eat, that he may know to refuse the evil, and choose the good.

"Now, friends, there is more in this little verse, perhaps, than the world has ever brought out. The production of butter and honey was especially pointed out as worthy and laudable, in the Bible; and whatever is in the Bible will bear following. Many people find themselves greatly benefited by a diet of milk and honey; and in the text I have quoted, butter and milk amount to pretty much the same thing; that is, the industry that affords butter, of course affords milk. A great deal has been said here about the overproduction of honey. We are producing too much of it, hence the low prices. I want to say, there is no overproduction, if it were properly placed before the people, and they had an opportunity of using it. There are enough children in our land alone to take every pound of honey we can produce, and not have half enough to go around, even then. [Applause.] Instances have been mentioned during this convention, of cases where people had no sort of knowledge that good honey could be offered at retail for 8 or 10 cents per pound in its liquid state, and from 12 to 15 cents in comb. [Louder applause, etc.] We have produced immense quantities of honey. At one time the shipment of a ton of honey to New York created quite a sensation; but now, carload after carload may be unloaded at our commission-stores, and no note or comment is made of it. We are consuming immense quantities, but the world is by *no means* supplied yet. What is the trouble? One of the troubles, to my mind, lies right here, and it certainly is a very great trouble. The industries of our land are not all worthy and laudable. The Bible indorses and approves of the milk and honey industries; but does it anywhere say that beer and whisky shall ye drink, that ye may know to choose the evil from the good? [Loud applause.] Do you wish to know what the beer and whisky business has to do with the low price of honey? Just this, my friends: The money that should pay for milk and honey for the children, now pays for beer and whisky every Saturday night, and the children go without these things that would be so conducive to their health and well-being. [More applause.] You have all heard of the immense sums of money that go into the dram-shops. Now, a great part of these immense sums are made up of the money that is needed for the growing children; and I hardly need allude to the fact that a mere fraction of the money that goes for intoxicating liquors would take all the honey that we can produce, at good prices, and the honey would benefit, while strong drink is a curse."

I wish it were possible for me to give a good many more similar talks furnished us by friend Root; but I am afraid that a good deal that I have quoted above may be so far from his words that some of the friends may think I have not done him justice; but I have given the idea, and it is a grand one for the encouragement of the bee-keepers of the world.

Some very pleasant words were said in regard to reviews of the past. Friend Root

spoke of the progress we had been making in the matter of charity for each other. Said he, "Why, I remember the time when this convention spent nearly one whole day in censuring and finding fault with the editor of GLEANINGS and the editor of the *A. B. J.* The principal complaint made of our friend A. I. Root was his one-pound section. I am glad he is here to-day, however, and I am glad that the one-pound section is now the standard the world over. We complained then because of the smaller package he recommended. What shall we say now, when a dime package of comb honey seems to be the coming package?"

The subject of supply-dealers came in, of course, during the deliberations, and friend Root said he had urged the importance of bee-journals not connected with the supply-business, and he still felt that it would be very desirable; if it were possible, to have a bee-journal in no way connected or interested in the sale of supplies. He added, however, that, if experience seemed to indicate it best, all things considered, to have the editors deal in supplies, he was willing to give way and let the matter drop. He emphasized, however, a point which I wish to notice a little. It was this: That one who deals in supplies, and has no interest in any journal, does not stand a particle of chance of competing with the proprietor of said journal, on account of the editor's facilities for constant advertising. At that time I wanted to put in a word; but as so much was before the convention, and as it seemed a little like pleading for my side of the question, I let it drop. I will, however, give it here: Admitting that a bee-journal is a wonderful help to a dealer in bee-keepers' supplies, because of the reasons given, there is, notwithstanding, a far better way of advertising than through any bee-journal; and this better way is open to all and every one in any business of any kind. Shall I tell you the secret? It is, my friends, simply to surprise every customer you get, by giving him the goods he has paid for, before he expects them; and surprise every one who writes you a letter, by getting some sort of an answer to him before he supposes an answer could possibly have had time to reach him.

Had there been an opportunity for me to say this before the convention, I suppose it would have brought down the house with applause, for they applauded me for many things with far less truth in them than the above. Now, the above few words are of so very much importance to the thousands who are just embarking in business, that I want to digress right here in my report of the Albany Convention, long enough to explain a little how you may all avail yourselves of this wonderful means of advertising. If you are some distance from the postoffice, and go after the mail yourself, put some postal cards in your pocket. Open your mail at the office, and acknowledge the receipt of letters of importance right on the spot. It is a very great advantage to be located near a post-office and express office; and if you are going to build up much of a business of supplies, or sending goods by express or freight, you had better get a location that will admit

of promptness. When an order comes with money, start back a postal card, telling your patron what to expect; then bend your energies to the fulfillment of the order in such a way as to make friends with your customers. Now, then, get up early mornings, or be out a little after dark, if need be, to get the goods on an early train; and if you lose money by the time it takes to be prompt, on a single transaction, you are laying up money by building a reputation, and you are building on a solid rock.

After the convention was over, among the great numbers who wanted to shake hands with "Brother Root" was a young man of fine appearance and pleasing address. By the way, I have begun to think several times lately I was really falling in love with the boys of our land—with good boys—boys who do not swear nor drink, nor use tobacco—boys who love bees and outdoor pursuits—boys who love godliness and righteousness. Well, right before me was a model boy. He might have been 25 years old, but he was one of America's boys for all that. He was a schoolteacher; and it just now occurs to me that I love schoolteachers. May God help us in choosing teachers for our youth, who are upright in life and pure in heart. After talking with him a little I found out that his father was somewhat of a market-gardener, and that he himself was in love with intelligent agriculture. Need I tell you that we became fast friends very fast? When we got down to the Globe Hotel he applied for a room, and was told that the bee-men had filled the house completely—there was not room for another one. "Why, look here," said I to my friend, "if it meets your approval, room with me, and then we can talk bees and gardening."

He seemed to be very much pleased with the arrangement, and we had some big talks, I tell you. Next month I will give you the outcome of some of these talks; but I want to make only one point now. He, with many others, spoke of our wonderful promptness at the Home of the Honey-Bees, and, by way of contrast, he mentioned the following:

Early in the spring his father sent for section boxes, etc., for the coming harvest. He sent the exact amount of money, for he had previously received an estimate. The estimate came promptly; but after they had sent the money it was almost impossible to get a word from the supply-dealer. I do not know whether they even acknowledged the receipt of the money or not, but they did not send the goods, and did not tell when they would send them. The bees began gathering honey. As our friends could get no answer they asked to have the goods sent at once, or the money refunded; and in any case to let them know what to depend on, without a moment's delay. After nearly or quite two weeks had passed, our young friend, in desperation, went across the country with horse and wagon, and succeeded in getting some sections that were not at all what he wanted, although they cost much more than those that were ordered and paid for. After they got home with their odd-sized sections, and got part of them in the

hives, the goods that had been waiting for weeks and months put in appearance. But even then no word of apology, no letter of explanation, came. After the rush was over, came a very handsome letter of apology. I do not remember whether there was a proposal to pay the damages or not, but there ought to have been. My young friend stated, that a simple postal card, telling them just what they could depend upon, would have been worth more than ten dollars in cash. Now, then, do you see clearly the secret I have been telling you of—a secret that is worth for advertising purposes *more than all the bee-journals put together?*

OUR OWN APIARY.

CONDUCTED BY ERNEST R. ROOT.

HOW THE BEES HAVE WINTERED UP TO DATE.

IN my last, you remember I felt somewhat apprehensive as to whether the large number of nuclei with their valuable queens would survive the continued zero weather we were then having. Since this time we have had a day or two of beautiful spring weather, during which our bees all had a good fly. I am glad to inform our readers, that, at this writing, not one of our colonies, either large or small, has died. I opened, or peered into about 25 of the doubtful ones—the weakest and the strongest. The former I feared might perish from the cold, on account of the small cluster; the latter, because they might have consumed their stores. All were in excellent condition, and well supplied with stores. As the bees were flying from the entrances of all the rest of the hives (about 175), from which bees ought to be flying if alive, we decided not to open them up and disturb their winter nest. The colonies all had a great abundance of stores the previous fall, and we took it for granted they would hardly be needy by this time. In a month or so, when a warm day permits, we will examine all thoroughly, and all such as may be running short we will supply with combs of sealed stores. These latter we have stowed away for this purpose, in our honey-house.

While it is encouraging thus far, the bees have yet to encounter the changeable weather of spring, and I may yet realize what I at first feared.

VENTILATION.

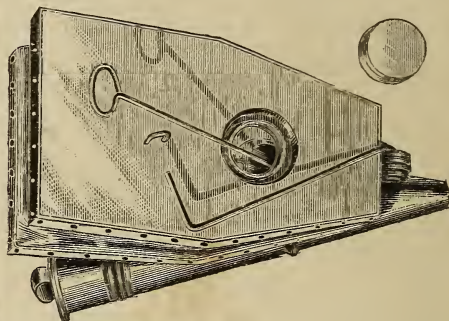
For two seasons back, my attention has been attracted particularly to the fact that all colonies packed in chaff hives cluster close to the front side of the hive (providing they have stores in that quarter) just over the entrance. In pulling back the chaff, and lifting the burlap in the colonies that I examined recently, I found that the bees were invariably clustered over the entrance. Why do they do this? I believe it is wholly on account of better ventilation which they get in that quarter of the hive. Hence I think the wisdom of giving bees the full width of the entrance.

WHEAT OR OAT CHAFF.

One of our colonies was, by mistake, packed with oat chaff instead of wheat chaff, as the rest were packed. The chaff in this hive was wet and moldy, and even partly rotted. The wheat chaff, on the contrary, was nice and dry. I threw out the wet chaff and put some dry in its place.

CLEANING THE CLARK SMOKER FROM THE VALVE.

In order to obtain the best results, the Clark should be cleaned daily. Heretofore we have been obliged to clean from the nozzle, passing the wire cleaner through the blast-tube: but as the latter is not easily accessible through the nozzle of the smoker, C. C. Miller and others have suggested that the valve be made removable so as to permit the cleaning-wire to enter through the bellows into the blast-tube. Mr. J. T. Calvert, one of our co-workers, as you may know, and a brother-in-law of the writer, has struck upon the plan illustrated below.



THE CLARK SMOKER, WITH THE VALVE SO CONSTRUCTED AS TO FACILITATE CLEANING.

The engraving shows the smoker in the act of raking out the sooty accumulation, the wire passing through the valve into the blast-tube. You observe that the valve-hole, instead of being located where the small staple is now, is placed directly opposite the blast-tube. The arrangement for permitting the closing and opening of the valve is simply a screw cap of a suitable size. The leather is punched to receive the rim of the cap, and is glued fast. When the cap is screwed on we have a valve that works as before. If it is desired to clean the blast-tube, the cap is unscrewed. As the new arrangement of the valve adds but a trifle to the original cost of the smoker, we will furnish the smokers at the same price as before. There is only one defect in this valve. After the accumulation of soot has collected in the cap, it is sometimes difficult to unscrew it. But one with a pair of stout fingers ought to be able to loosen it. The bellows must be tightly closed, otherwise the unscrewing of the cap will loosen the valve.

This improvement greatly facilitates cleaning, as well as making a better job of it. The soot, instead of being pushed in the bellows, as in the old way, is, by the plan above, shoved out through the valve-hole.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER.
MEDINA, O.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, FEB. 1, 1887.

If, when ye do well, and suffer for it, ye take it patiently, this is acceptable with God—I. PET. 2: 20.

The department of Circulars Received is crowded out this issue by advertisements.

The total number of new names received during the past month, exclusive of renewals, was 528; ordered out, 190. Total number up to date, 6424.

PROF. COOK'S NEW BOOK ON THE MAPLE-SUGAR INDUSTRY.

The title of the above book is, "Maple Sugar and the Sugar-bush." It will be a book of about 50 pages, profusely illustrated, and we hope to have it ready to mail by the 15th of this month. Price 40 cts. by mail, postpaid. If ordered with other goods, by express or freight, 35 cts.

THE BEE-KEEPERS' ADVANCE.

The above is the name of a new journal, or rather, perhaps, the name of the *Maine Bee-Journal*, commencing with the new year. It is now in the hands of our good friend J. B. Mason; and as he has been a good straight honest man heretofore, we suppose he will be a better one since he has become an editor. The January number is at hand, and full of good things; but if I were in friend Mason's place I don't believe I would have my price list of supplies bound together with the journal. I know there are other journals that do the same thing; but as we have, as a class, been accused of running our bee-journals solely to advertise our supply business, will it not be better to shun even the appearance of evil?

EXTENDING THE TERRITORY TO THOSE WHO ARE SOLICITING SUBSCRIPTIONS FOR GLEANINGS.

SEVERAL have asked us if they could not take names at adjoining postoffices as well as at their own, and we have decided that you may get subscriptions anywhere you choose, provided you see the parties personally, and do not, in any circular or elsewhere, make any printed announcements that you will receive subscriptions for less than \$1.00 each—our established price. The principal idea is, friends, to have GLEANINGS presented to the class of individuals who would not know any thing about it unless their attention was called to the matter by some one in their neighborhood. Our subscription-list is evidently going higher this year than it has ever done before, and we think it is principally owing to this matter of personal work for it. If you do not get the subscription, be sure to send in the name, in order that we may send the party a price list.

THE AMERICAN AGRICULTURIST.

ONE reason why we value this standard agricultural periodical is because of its numerous engravings of household and farm conveniences that appear in

every issue. As an illustration: A few days ago we were talking about an arrangement of pulleys whereby our teamster could lift the box from the wagon himself, and put it on again, having the box overhead in the tool-house, entirely out of the way. In glancing over the *Agriculturist* for February, I saw a picture of an arrangement not only very much better than the pulleys, but cheaper, and I presume that this one picture saved me much more than the price of the journal for a year. It saved a good deal of thought and study, and gave me a better machine than it is at all likely I should have got hold of without its help. The regular price of the journal is \$1.50 per year, but we can furnish it to our subscribers for \$1.25.

MR. THOMAS HORN.

AFTER considerable correspondence, Mr. Horn has finally consented to have me collect all the claims against him; and to end all controversy and long letters, he proposes to give his note for all indebtedness. These notes are to be payable in two years, but he is going to *try* to pay them up this season. Ten per cent is to be added for the use of the money. Now, then, write me just how much Mr. Horn is owing you; and when the amounts are ascertained to be correct, I will forward you his note. Please do not write long letters about it, if it can possibly be avoided. When we get every thing settled, Mr. Horn is to advertise again, and make the attempt to get back the reputation he has temporarily lost. We presume most of his customers will consent to receive bees or queens this season, instead of asking for the cash back again; but the note is to be held until the account is settled satisfactorily. Let us make it as easy as we can for him to get on his feet again, for you know there is joy even in heaven over every sinner that repenteth.

WHO SHALL BE GREATEST?

IN the issue of the *British Bee Journal* for Jan. 6, we notice some reflections on the American people for having copied the inventions of our British friends, without giving credit, and it is stated that the one-piece section was made in England at least one season before it was made in America. No doubt this may be so, but I do not believe it will benefit any of us to spend very much time in looking it up. Let us by all means be careful to give credit whenever we get an idea from any one. With the multitudes on both sides of the water who are now contributing to our inventions and bee-literature, it may be, however, sometimes quite inconvenient to acknowledge every suggestion by which we have profited. Let us remember the Savior's words to his followers when he found them disputing among themselves as to who should be greatest. Quite frequently I find my inventions used and described, without any credit whatever to the source. Sometimes articles are copied, or portions of them, without credit. This species of plagiarism is not confined to this side of the Atlantic, however; for on page 285 of the *Bulletin d'Apiculture de la Suisse Romande*, one of our ablest French exchanges, edited by Ed. Bertrand, at Nyon, Switzerland, we read:

We are pained at times by the custom that some journals have of reproducing articles from our *Review*, without giving credit, or simply giving the name of the *writer* of the article, without paying any attention to the law of literary propriety, which demands that the name of the *proprietor*—that is to say, the name of the *journal*, be indicated. This is a convenient way of obtaining the work of our co-

workers. Another method consists in taking the text and changing the lines a little.

As for *myself*, I do not see that it matters very much, after all. If the public are benefited, does it make any great difference "who is the greatest"?

ARTIFICIAL COMB HONEY—SOMETHING MORE ABOUT IT.

A SHORT item appeared in the Pittsburgh *West-End Bulletin*, to the effect that there was an establishment in Pittsburgh making comb honey, etc. Our good friend W. H. Ferguson, of Bloomsdale, O., while in the above city, took the pains to follow it up. The editor of the paper declared there was no mistake about it, and gave the street and number. When our friend got there they said it was a fact, but that it was off somewhere else, up three flights of stairs, and so on. What do you think they found? Why, a man who makes cement and sealing-wax; and it happened that this worthy tradesman also put up very neat little cakes of wax for the sewing-table—just that, and nothing more. As he is said to be both honest and industrious, we give his address to the friends who may want little cakes of wax—postoffice box 155, Pittsburgh, Pa. Now, then, who comes next?

SPECIAL NOTICES.

MAPLE SYRUP.

IN view of the crop soon to come, we offer the remainder of the lot mentioned on page 1002, Dec. 15th issue, at 75c per gallon; or 85c per gallon with package included to ship it in.

DISCOUNTS ON GOODS FOR THE MONTH OF FEBRUARY.

AS before announced, we shall make an extra discount of 3 per cent on all goods of whatever nature, mentioned in our price list, for orders received during this month. The object is, to prevent the rush and crowd that comes a little later on.

THAT LOT OF GLASSED COMB HONEY.

IN order to close this out before the new season opens, we have decided to offer it at an even 10c per lb., in lots of 10 cases; less than 10 cases, 10½c per lb. For weights of cases and further description, see page 329, April 15, 1886. If you have not the above number we will mail one on application.

FRENCH BEE-JOURNALS.

WE have on hand a large lot of nearly all the standard French bee-journals published. We will mail any number, as long as they last, to all who can read them, for 3 cts. per copy. So far as possible they will come in regular order. At this rate we can not promise to select any particular number.

FRIEND MARTIN'S CHROMO.

As a general thing, it will not do for us to make editorial mention of the things offered for sale in our advertising columns. Friend Martin has, however, gotten up a chromo of such exceeding beauty that we do not feel as if it would be right to pass it by. The figures of the bees and queen stand out like life. The Chapman honey-plant is wonderfully true to nature, even to the colors. The same is true with the alsike clover and other honey-plants. Even Heddon's hive is a thing of beauty, as the chromo shows it. The idea is, to have your price list printed on the back of these cards. For convenience in this latter respect, we will furnish them here at his prices. The cost of the printing on the back side will depend on the amount of matter. The size is about that of a common postal card. One feels, in looking at this, as he does in looking at many of the seed-catalogues nowadays—the pictures are a good deal nicer, many times, than the thing itself.

WHAT KIND OF SEED SHALL WE PLANT?

SOME EXCEEDINGLY KIND WORDS FROM FRIEND GREEN, OF THE EXPERIMENT STATION, COLUMBUS, O.

FRIEND ROOT:—I am much pleased with your catalogue of seeds. Many might think, that, because your list is so short, you do not have the best to be had; but my reason for being pleased is the fact that you *have the best* and *about all the best*, varieties known to the trade, and have put the matter in such shape that even a novice can select. You have condensed a voluminous catalogue to two pages, and have left out hardly a single valuable thing; or, to use a very common figure of speech, you have given us the "cream" of the catalogues. The list is not yet quite so short as I would have made it, and I would put in a few varieties not found there; but it is near enough to my ideal to meet my hearty approval.

I know that one's success in gardening depends largely upon a good selection of varieties; and I know, also, that the majority of people do not know what the best varieties are. The ordinary seed-catalogues are so voluminous as to be confusing to all except the experienced gardener, and he is often misled by a flaming list of novelties. Having tried almost every thing, and found so few varieties that are really good, I can readily see how serious losses and vexations might come because of these bad habits that our seedsmen have fallen into. I have really taken the matter quite to heart, and have ardently desired to see a reform inaugurated. I have not blamed seedsmen, at least none in particular, for the evil has grown so gradually, and apparently in such an innocent manner, that the blame can be attached to no one alone. Furthermore, I had come to think, with many seedsmen, that a short condensed list would carry no weight, and bring but few customers. I hope, Mr. Root, that you will not hesitate to tell us the results as nearly as you may be able. If others know as well as I know that you have not only selected the best varieties, but have bought your seeds of the most reliable growers, they would not hesitate to order of you. You might have bought seeds that would not have cost you half the money, nor that much, indeed, in the case of many articles; but you have selected the best, and I earnestly hope that you will be rewarded; but I really fear that your reward will be almost wholly that which comes from having a good conscience, which every man ought to have, but he is entitled to something more also, if he is diligent.

One thing further I should be glad to see done; but if it is done at all it must be done in a convention of seedsmen. That is, to reform the nomenclature of vegetables. At present every one has his own way of writing names. One writes Early Wakefield, another puts in the Jersey, and another prefixes Very. An old English pea is called, by some, Early Philadelphia, while others, like Landreth and Henderson, prefix their own names. Thus it gets out under a dozen or more aliases. So on through the list, almost every thing having several names. If this does any one any good, I am unable to see how; and I am not ignorant of the arguments in favor of it. That it does harm, there can be no doubt; for it is a stumblingblock in the way of thousands who buy seeds. Suppose that some one concludes to give you an order, but fails to find in your list what he wants. It is altogether probable that it is there, but under another name, or, what is still worse, the same name is often used for entirely different things; and even the most careful may thus get deceived in buying. Fruit-growers have had the same trouble, but they have brought about a reform, and seedsmen ought to do the same. I can not believe that things are so disjointed in this world that it pays to perpetuate a wrong. Every seedsman who aids in keeping up this Babel of names is doing his customers an injustice, and I do not believe that such a course is consistent, nor in accord with business principles. It surely is not honest for a seedsman to prefix his name to a thing, or rename it in any way, and then send it out at a high price as something new, when every seedsman has it; and I do not believe that such a course pays in the long run. It is, however, done frequently, and a large share of the surplus names come in that way. I do not object to an improved sort being

called "Improved," or in some way designated, and let the improver have the credit, but we want short names, and honest names, and I hope the time may come when we shall have them.

Columbus, Ohio, Jan. 4.

W. J. GREEN.

After reading the above I wrote immediately to friend Green, saying that I would gladly pay him for the time and trouble required to cross out and add in such garden vegetables as he thought advisable. I also desired him to direct me in regard to asparagus, potatoes, and a few other things omitted in our list, as given on pages four and five, issue for Jan. 1. The following comprises all the additions he has thought fit to make. The only things he has crossed out from the list as I gave it is the long blood beet, the Stone-mason cabbage, and the Trophy tomato. He does not mean to say by this that the above are not good, but that we have others so much better he thinks it advisable to drop them out. The additions are made as follows:

ASPARAGUS.

Conover's Colossal. Oz. 5c; lb. 50c.

These are said to be improvements upon this variety, but they have not been fully tested. No one will lose any thing by planting this old standard.

BEANS.

White Marrowfat. Pt. 10c; pk. \$1.00.

One of the best to use shelled, when green or ripe.

BEETS.

Lane's Improved. Oz. 5c; lb. 40c.

The best variety for stock-feeding. It showed a larger percent of sugar at the Experiment Station than any other analyzed.

Long Red Mangel. Oz. 5c; lb. 30c.

Yields well, but not so sweet as the above.

CABBAGE.

Louisville Drumhead. Oz. 15c; lb. \$2.00

One of the most uniform and surest-heading sorts tried at the Ohio Experiment Station. It is a little later than Flat Dutch, hence may be planted later; just the kind to plant after early crops.

CARROTS.

Orange Danvers, Half-Long. Oz. 5c; lb. 60c.

Yields well, and is easy to dig. The best sort known, by all odds.

CORN (FOR TABLE USE).

Livingston's Evergreen. ½ pt. 5c; pk. \$1.00.

Earlier than the Mammoth. Excellent as a market variety, also for drying and for home use.

ONION.

Yellow Danvers. Oz. 20c; lb. \$2.50.

A standard yellow variety. The best of all to grow from seed. It makes a wonderful difference, however, how the seed is grown. Some strains will give nearly double the crop that others will.

PEAS.

Landreth's Extra Early. ½ pt. 5c; pk. \$1.50.

We consider this equal to any for the first peas of the season. The same as the First of All, First and Best, and other extra earlies. It yields its crop in a very short time. Not equal in quality to the following:

Marrowfat. ½ pt. 5c; pk. \$1.00; bu. \$3.50.

One of the most desirable and well-known late sorts.

POTATOES.

Early Ohio. Per peck, 50c, or \$1.25 per bushel.

The Experiment Station, Columbus, O., says there is nothing earlier.

Our whole crop of Early Ohio last season was sold at \$2.40 a bushel. Of course we could not offer the seed at the above prices were it not that we procured our seed of a neighbor who raises potatoes largely.

Early Pearl. Per peck, 75c, or \$2.50 per bushel.

The Experimental Station finds this about as early as the Early Ohio, and perhaps yields a little better.

Lee's Favorite. Per peck, 50c, \$1.25 per bushel.

This is a few days later than the foregoing, but yields a little better still.

Empire State. Per peck, 40c, \$1.25 per bushel.

This, the Experiment Station considers as good a late or medium late potato as any before the public. They decide that the above four varieties are the cream of the list.

KIND WORDS FROM OUR CUSTOMERS.

Box received; every thing is all right, perfectly satisfactory. A part of the articles are already in use. Wm. C. PALMER.

Old Chatham, N. Y.

The section honey I ordered of you some time ago, received in good order; no leakage and no breakage. Wm. BITZER.

Fulton Station, W. Va., Nov. 29, 1886.

GLEANINGS has become a household fixture. The A B C is our best counselor. The "Home of the Honey-Bees" is that Mecca to which one longs to make a pilgrimage. L. F. STODDARD, M. D.

Ramsay, Ill.

Accept my thanks for the favors you have shown me during this year. Your goods were satisfactory in every respect, and all arrived without the slightest injury. W. T. HORTON.

Confluence, Pa., Nov. 24, 1886.

THAT WATERBURY RUNS UP TO A MINUTE.

I have had dealings with you, and found you always to deal on the square. The Waterbury you sent me runs just as you said it would, up to a minute—the best timepiece I ever had.

Pleasant Mound, Ill.

W. G. HAYEN.

The honey arrived all right. I have sold nearly \$8.00 worth of it, clover honey, at 15 and 16½ cts; basswood, at 12½ and 14. Plenty of California honey in town at 10, section boxes at 13, for sale. The "Little Detective" is a gem. D. HOWARD.

Dover, Del., Dec. 10, 1886.

"BREAD CAST UPON THE WATERS."

I want GLEANINGS and the *British Bee Journal* another year, sure. GLEANINGS I should want, even if I took no interest in bees. I don't wish or intend to flatter, but your labors in GLEANINGS for the benefit of the world generally are appreciated by myself, and have been the means of leading me to consider the hereafter as nothing else has done. You may not feel that you are getting an immediate reward for your work, but it is "bread cast upon the waters," and it will surely return. You will find in your crown of glory many stars that in this world you will have no knowledge of.

J. E. POND, JR.

Foxboro, Norfolk Co., Mass., Dec. 10, 1886.

HOW A WOMAN CAN MAKE USE OF OUR WHEELBARROW.

Inclosed find \$2.00 for goods mentioned below. I am ashamed for not letting you know how nicely those goods were packed. They carried well, and we were all so well pleased with them we could not find fault if we tried to. We were pleased with every thing, from the 10-cent wrench to the wheelbarrow. That little wheelbarrow is a blessing to women. It saves many steps. We use it in the house and out of the house. I never knew before that a wheelbarrow could be made to be so useful. Of course, some would ask, "What could you do with it in the house?" Try it in taking up carpets and what not; in house-cleaning, etc. Try it in bringing vegetables from the garden. I think mine a very nice piece of furniture when brought into the kitchen, loaded with sweet corn, tomatoes, etc. With a little care there need be no litter. I never allow the chickens to roost on my wheelbarrow. It is too good a friend. If it should get broken I should have to have another right away. MRS. ANN SCAFFE.

Barboursville, Lycoming Co., Pa., Nov. 30, 1886.

THE A B C OF BEE CULTURE.

I think I can claim, or rather begin to claim brother on bee-keeping, after the success we have had this summer. Wife and I are partners in bees as well as in every thing on the farm. Only one thing we do not agree on—I have had two A B C's and sold them both in a short time after I got them. Wife rebels, and says she is going to have one herself, as we can not keep bees without it. I had 9, spring count, all pretty good and strong. We took off 1250 lbs. of comb honey in 1-lb. sections, and 200 lbs. of strained. We increased to 23; sold 5, lost 1, and now have 17, packed away in chaff and forest-leaves, on summer stands. I think we have

one swarm that is hard to beat for brown bees. I don't like the name "black." We took from it 175 lbs. in pound sections. How is that for an A B, not yet to C, scholar? Three years ago we hardly knew a drone from a worker. We have not lost one yet in wintering. We thank the A B C book for it, with GLEANINGS to help. We could not do without your journal. I miss Our Homes every other week. I would rather have it come twice a week than twice a month.

JOHN H. KIRK.
Royalton, Mich., Dec. 24, 1886.

EXCHANGE DEPARTMENT.

WANTED.—To exchange for good horses and mules, 200 colonies of bees in Simplicity frames; also 40 acres of land adjoining the city.
20tfdb ANTHONY OPP, Helena, Phillips Co., Ark.

THOROUGHbred fowls, Brown Leghorns, S. S. Hamburgs, W. C. B. Polish, P. Rocks and Wyandottes, Bonney's, Forbes', Hawkins', Wilcox & Fultz' strains. We will sell for cash, or exchange for fdn. and beeswax. Price list free.
18-19tfdb A. H. DUFF, Creighton, Ohio.

WANTED.—To exchange, nursery stock of all kinds (evergreens a specialty), for Italian bees, tested queens; nuclei, fdn., apiary supplies, bee-plant seed. Give prices of your goods. My price list free.
R. A. LEWIS, Cherokee, Iowa.

WANTED.—To exchange Gregg raspberry-plants, comb fdn., 1-lb. 1-piece sections, L. frames.
For particulars, address THOMPSON BROWN, 1d Cloverdale, Ind.

WANTED.—To exchange spider-plant seeds for Plymouth Rock eggs, Conger or Hawkins strains, or offers.
W. A. SANDERS, 3d Oak Bower, Hart Co., Ga.

WANTED.—To exchange extracted honey for one-piece sections.
3d CHAS. T. GEROULD, East Smithfield, Bradford Co., Pa.

WANTED.—To exchange eggs from four yards, pure-bred prize-winning Plymouth Rocks, for pure Italian queens. Eggs, \$2.00 for 13, or \$3.00 for 30.
3-8db B. D. SIDWELL, Flushing, Belmont Co., Ohio.

WANTED.—To exchange a good colony of bees in Mitchell or Simplicity frames for Rose Comb, Brown Leghorn Pullets, or Wyandotte Pullets. Nothing but thorough breed wanted.
3d DAVID LUCAS, Jewett, Harrison Co., Ohio.

WANTED.—To exchange my new catalogue of bees, queens, new section-case, for your address on a postal card.
3-4d Address F. A. EATON, Bluffton, Allen Co., Ohio.

WANTED to exchange or sell, a Given fdn. press, 3 tanks, and ½ doz. dipping-boards.
1tfdb J. SWALLOW, 2816 Mo. Ave., St. Louis, Mo.

WANTED.—To exchange for a self-inking printing-press (not less than 10×12-inch chase), or offers, one German-silver B-flat cornet, used but little, one novelty printing-press, 6½ x 10 inch, and a lot of Simplicity bee-hives.
2-3d Address CYRUS MCQUEEN, Baltic, Ohio.

WANTED.—To exchange chaff hives or surplus crates for bees next spring. Illustrated price list on application.
2-3-4-5-6d GEO. E. HILTON, Fremont, Mich.

WANTED.—To exchange pure Italian bees for supplies or chaff hives in flat. Make offers.
2- tfdb S. F. REED, N. Dorchester, N. H.

WANTED.—To exchange Cuthbert raspberry roots for a double-barrel 12-gauge breech-loading shot-gun, or a female ferret, or beeswax.
3-6db M. ISBELL, Norwich, N. Y.

WANTED.—To exchange Italian or Syrian queen-bees, or 3-frame nuclei of same, for a pair of Embden or Toulouse Geese, a pair of Aylesbury and Rouen ducks, Bronze and White Holland turkeys, or other fancy poultry. Address
3-4d W. P. HENDERSON, Murfreesboro, Tenn.

WANTED.—To exchange some comb and extracted honey for hives, 1-lb. sections, 4¼x4¼x1½ or 2, and a few trio of Wyandottes and a few cockerels for supplies or cash.
3d L. WERNER, Edwardsville, Ill.

WANTED.—To exchange a new large pictorial family Bible, cost \$8.50, for extracted honey.
3d W. H. LAWS, Lavaca, Ark.

WANTED.—To exchange a "Taylor" Horse Power, Saws, etc. (cut furnished on application) for hive-making, and a 10-inch Root fdn. mill, tank, etc., good as new, for nice extracted honey, farm wagon, cash or offers. J. G. FITZGERALD, Brookston, Tex.

WANTED.—A sandpaper section machine (Root's make) in exchange for bees, sections, shipping-crates, or a sewing-machine.
3d F. GRANGER, Harford Mills, Cortland Co., N. Y.

AT KANSAS CITY, MO.

PURE ITALIAN BEES FOR SALE.

Untested queens, in May.....	\$1 50
“ “ “ June.....	1 25
“ “ “ after.....	1 00
Tested queens, double the above prices.	
Full colonies, before July 1.....	\$12 00
“ “ “ after.....	10 00
Bees per half-pound, same prices as untested queens. My untested queens are	

Warranted to be Purely Mated.

My bees are in fine condition; no "foul brood" in my yard or neighborhood.
3tfdb. E. M. HAYHURST, P. O. Box 60.

SIMPLICITY AND LANGSTROTH HIVES,

ALL DOVETAILED SECTIONS,
BROOD AND WIDE FRAMES, SHIPPING-CRATES,
Wire Nails, etc. Send for circular.

3tfdb. GEO. WHEELER, Norwich, Chenango Co., N. Y.

ALL DOVETAILED SECTIONS,

One and two pounds. Langstroth Hives, etc.; 50 colonies Italian Bees, Nuclei, Queens, Brood and Section fdn. Ash kegs for extracted honey, frames of brood and bees.
3-6db. M. ISBELL, Norwich, N. Y.

DON'T FAIL

To send for price list of Bee-Keepers' Supplies, etc., manufactured by the use of

NATURAL GAS,

3-5d. To J. J. BRADNER, Findlay, Ohio.

BEES! BEES!

Colonies, Nuclei, and Queens,

For sale. Send for price list to

3-5-7d. S. D. McLEAN, COLUMBIA, TENN.

FLAT - BOTTOM COMB FOUNDATION.

High side-walls, 4 to 14 square feet to the pound. Circular and samples free.



J. VAN DEUSEN & SONS.

5tfdb Sole Manufacturers, SPROUT BROOK, MONT. CO., N. Y.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

→ SOUTHERN HEADQUARTERS ← FOR EARLY QUEENS,

Nuclei, and full colonies. The manufacture of hives, sections, frames, feeders, foundation, etc., a specialty. Superior work and best material at "let-live" prices. Steam factory, fully equipped, with the latest and most approved machinery. Send for my illustrated catalogue. Address
5tfd **J. P. H. BROWN, Augusta, Ga.**

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
1tfd **JNO. VANDERVORT, Laceyville, Pa.**

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

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